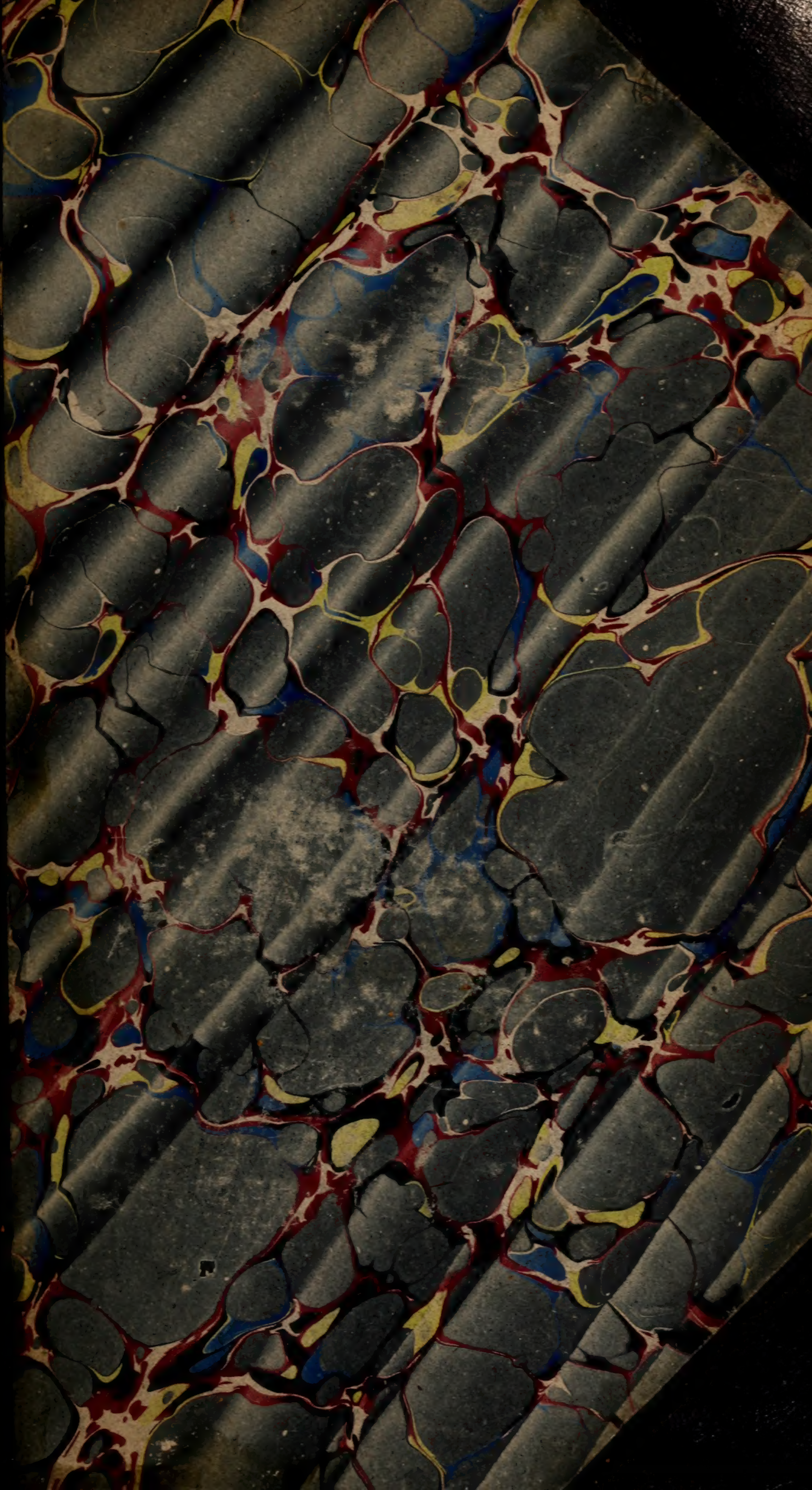

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Original Communications.

On the Chemical Reactions of Conine. By T. G. WORMLEY, M.D

Conine, known also as *conicine* and *conia,* is a very volatile liquid alkaloid found in *conium maculatum.* It exists perhaps in all parts of the plant, but is most abundant in the fruit. It was first obtained as an impure sulphate by Giseke in 1827; Geiger, in 1831, obtained it in its pure state, and described some of its properties and effects upon animals. Its effects upon animals were more fully examined in 1835 by Dr. Christison. Four different formulæ have been advanced in regard to its constitution, namely, $C_{12} H_{14} NO$, by Liebig; $C_{17} H_{17} N$, by Blyth; $C_{16} H_{16} N$, by Ortigoza, and $C_{16} H_{15} N$, by Gerhardt. The formula of Gerhardt is the one usually adopted.

In its pure state conine is a colorless oily liquid, having a peculiar, repulsive and suffocating odor, somewhat resembling an old tobacco-pipe; when diluted, the odor is similar to that of mice. This peculiar odor is perceptible, even in highly dilute solutions; a few drops of a liquid containing only the 50,000th part of its weight of the free alkaloid, when enclosed for a little time in a small test tube, imparts its odor to a very perceptible extent to the contained air. When exposed to the air, pure conine becomes yellow, then brownish, and is resolved into a brownish resin and ammonia. According to Geiger, with which our experiment very closely agree, it dissolves in about 100 parts of pure water; it is very soluble in alcohol and ether. Its aqueous solution has a strong alkaline reaction, and neutralizes dilute acids, forming odorless salts. Most of the salts of conine dissolve freely in water, and in alcohol, and but few of them can be obtained in the crystalline form; when their aqueous solutions are treated with an alkali, they are decomposed, the alkaloid separating, from strong solutions in the form of minute oily globules, and emitting the peculiar odor of conine. The conine used in the following investigations was freshly prepared, had a just perceptible yellow tint, and was perfectly free from ammonia; at least Nesslers' test, which will detect the ammonia in a few drops of a 500,000th solution, failed to indicate its presence.

When *hydrochloric acid* is brought in contact with pure conine, the mixture assumes a pale red color, which increases in intensity and after a time becomes nearly blood red; when the mixture is spontaneously evaporated to near dryness, it deposits a mass of long crystalline needles, which readily dissolve in water or alcohol, and are redeposited in fine crystals as the fluid evaporates. When a drop of the alkaloid is placed in a watch glass and covered by an inverted watch glass containing a drop of hydrochloric acid, the glasses are immediately filled with dense white fumes, and the conine crystallizes to a solid mass of beautiful long crystalline needles; after a time similar crystals form in the hydrochloric acid drop. When dilute solutions of the alkaloid are exposed to the vapor of hydrochloric acid, they give rise to white fumes, and the conine solution when concentrated spontaneously deposits crystalline needles of the chloride of conine. The same crystals are obtained by neutralizing an aqueous solution of the alkaloid with the dilute acid, and allowing the mixture to evaporate spontaneously.

Nitric acid, exposed to the vapor of conine, gives rise to dense white fumes. When the alkaloid is treated with excess of the acid, it yields after a time, a pale red mixture, which, when allowed to stand a few days, leaves a red colored liquid containing a mass of colorless crystalline needles.

Sulphuric acid forms with the alkaloid a pale red liquid, which, after a few days, deposits crystalline needles along the edge of the mixture.

When pure conine is neutralized with a saturated solution of *oxalic acid*, the mixture, after a time, assumes a pale red color, deposits crystals, and ultimately becomes a dry mass of white crystalline needles. If the mixture be evaporated in a steam bath, it leaves a gummy mass.

When conine is agitated with water, the mixture froths, even when it contains only the 10,000th part of its weight of the alkaloid. In the following investigations the pure alkaloid was dissolved in water. The fractions refer to the amount of conine in solution in one grain of water. Except when otherwise stated, the reactions refer to the result of one grain of the solution.

1. TERCHLORIDE OF GOLD.

Saturated aqueous solutions of the alkaloid yield with excess of terchloride of gold, a copious bright yellow amorphous precipitate, which is insoluble in dilute chlorohydric acid; with a less quantity of reagent the precipitate has a brownish or reddish-brown color. When treated with potash, the precipitate becomes dark colored, and finally nearly black.

1. $\frac{1}{100}$ grain of conine yields a quite copious precipitate.

2. $\frac{1}{500}$ grain; a quite good yellow deposit.

3. $\frac{1}{1000}$ grain; an immediate cloudiness, which very soon becomes a good yellow precipitate.

4. $\frac{1}{5000}$ grain, gives but little indication, even after standing some time.

None of the above solutions furnished crystals, even after standing.

2. CARBAZOTIC ACID.

Strong solutions of the alkaloid yield with an alcoholic solution of carbazotic acid, a yellow amorphous precipitate, which in a little time changes into oily globules, and these after a time deposit large crystals. The precipitate is insoluble in excess of reagent, but readily soluble in excess of the alkaloid, and also soluble in acetic acid.

1. $\frac{1}{100}$ grain, yields a copious precipitate, which soon changes to crystals as above.

2. $\frac{1}{500}$ grain; an immediate cloudiness, and in a little time a quite good yellow amorphous deposit.

3. $\frac{1}{1000}$ grain, gives but little indication after some time.

3. CORROSIVE SUBLIMATE.

Aqueous solutions of conine yield with corrosive sublimate, a white curdy precipitate, which is but sparingly soluble in water, but readily soluble in acetic and the mineral acids.

1. $\frac{1}{100}$ grain, yields a copious curdy precipitate.

2. $\frac{1}{500}$ grain, gives an immediate cloudiness, which soon becomes a good deposit.

3. $\frac{1}{1000}$ grain; in a few moments a distinct cloudiness, and in a little time the liquid becomes quite turbid.

4. IODINE IN IODIDE OF POTASSIUM.

A solution of iodine in iodide of potassium, yields with solutions of conine, an immediate reddish-brown amorphous precipitate, which turns yellow and soon dissolves to a clear solution; upon the further addition of the reagent the precipitate may be re-produced, even several times from strong solutions. When a very large excess of the iodine solution is added at first, the precipitate is permanent. It is readily soluble in acetic acid.

1. $\frac{1}{100}$ grain, yields a very copious precipitate.
2. $\frac{1}{1000}$ grain, gives a copious deposit.
3. $\frac{1}{10000}$ grain; a very good brownish yellow precipitate.
4. $\frac{1}{25000}$ grain; a quite good yellowish precipitate.
5. $\frac{1}{50000}$ grain, yields a quite good yellow turbidity.
6. $\frac{1}{100000}$ grain; a distinct turbidity.

5. BROMINE IN BROMOHYDRIC ACID.

When *pure* conine is treated with a solution of bromohydric acid saturated with bromine, it yields a yellow amorphous mass, which soon changes to large orange-colored gum-like globules, which become yellow and after a time deposit colorless crystalline needles. The mixture evaporated to dryness spontaneously, leaves a mass of large needles, which readily dissolve in alcohol, and are redeposited as the liquid evaporates. The above reaction is somewhat modified by the relative quantities of the reagent and conine. When a drop of pure conine is placed in a watch glass and covered by an inverted glass containing a drop of reagent, the glasses become filled with dense white fumes, and soon crystalline needles form in the conine drop, which, when evaporated spontaneously, leaves a mass of long and beautiful colorless needles; the reagent drop evaporated, leaves a very good crystalline residue. An *aqueous* solution of the alkaloid when exposed to the vapor of the reagent gives rise to white fumes, even when the conine is dissolved in 1,000 parts of water. The reagent added to a solution of conine yields a yellow amorphous preciptate, which after a time changes into oily globules, but is reproduced upon the addition of more reagent, even several times from strong solutions. When the mixture is evaporated to dryness spontaneously, it sometimes leaves a crystalline residue, while at others a gummy mass, depending upon the relative amount of reagent present.

1. $\frac{1}{100}$ grain of conine dissolved in one grain of water, exposed to the vapor of the reagent, yields after a time crystalline needles, and when allowed to evaporate leaves a mass of colorless crystals. When the reagent is added to the conine solution, it yields a copious yellow precipitate, which soon changes to oil-like globules, from which the precipitate is reproduced upon the further addition of reagent. When the mixture is allowed to evaporate, if large excess of reagent has not been added, it yields a crystalline residue. The precipitate first produced is readily soluble in acetic acid.

2. $\frac{1}{1000}$ grain, gives a copious yellow deposit, which soon dissolves and is reprecipitated upon the further addition of the reagent.

3. $\frac{1}{5000}$ grain; a good yellowish precipitate.

4. $\frac{1}{10000}$ grain, yields a very distinct yellowish precipitate, which soon dissolves and is not reprecipitated upon the addition of more reagent.

6. NITRATE OF SILVER.

When an aqueous solution of conine is treated with a solution of nitrate of silver, it yields a brownish precipitate of protoxide of silver, which soon becomes dark colored, due to the reduction of the silver compound to suboxide.

1. $\frac{1}{100}$ grain, yields a quite good deposit.
2. $\frac{1}{1000}$ grain; an immediate precipitate, which in a little time becomes a good flocculent deposit.
3. $\frac{1}{5000}$ grain; a slight cloudiness, and in a little time a flocculent precipitate.
4. $\frac{1}{10000}$ grain; after standing some minutes the mixture presents a slight cloudiness.

A saturated aqueous solution of pure conine yields no precipitate with bichloride of platinum, iodide of potassium, chromate nor bichromate of potash, ferro nor ferricyanide of potassium, nor with ammonia sulphate of copper. If the conine contains ammonia, which is frequently the case, it will yield when treated with bichloride of platinum a yellow crystalline precipitate of the double chloride of platinum and ammonium.

Salts of conine dissolve without color in concentrated sulphuric acid, and when a small crystal of bichromate of potash is stirred in the mixture, it yields only green oxide of chromium.

COLUMBUS, OHIO, December, 1861.

Scraps from a Lecture delivered by PROF. DAWSON *at the Franklin County Infirmary, to Students of Starling Medical College—On Pus.* Reported by W. W. BICKETT, Hospital Steward.

GENTLEMEN :—I will occupy your attention to-day with a few remarks on Pus. In Pathology, like in other science, we have first principles—principles that are at the foundation. These, it is unnecessary for me to say, should receive attention, should be mastered before anything else can be understood.

Something was known of *pus* in very early times—but you will consult the Fathers in vain for anything definite. A knowledge of its characters, (microscopical and chemical) its sources, its uses, and the alleged diseases to which its absorption gives rise, are among the modern achievements of pathology. To have some order in what little we have time to say on this very important subject, we will begin with the

MICROSCOPICAL CHARACTERS OF PUS.

Time was, and not very long ago either, that the blood was looked upon as a homogeneous fluid, a red liquid moving through the vessels without any trace whatever of organization, without containing, what in these modern times is called an *histological* or a *morphological* element. Malpighi, however, came along, and with what would now be regarded as a very imperfect microscope, dispelled our ignorance. A fluid that had doubtless been unsuccessfully inspected by every man and woman from Adam to Moses, and from Moses to Harvey, bowed at last in humble submission to the entreaties of the German naturalist, and gave up the secret of its composition. Think, young gentlemen, of the supreme pleasure and extatic felicity experienced by this pioneer in microscopy just as the lens unfolded to his view the blood cells floating about through the liquor sanguinis, an observation without which Harvey's discovery of the circulation of the blood would have remained as nothing more than a mere theory. Some of you, gentlemen, have doubtless been so unfortunate as to have heard the microscope spoken of as an instrument merely for amateurs, and scarcely reliable in its revelations. But what think you after such an achievement ?

The knowledge of a cytoid corpuscle in the blood led to the application of the microscope to other of the fluids of the human body, and the results are that we have discovered also a lymph-corpuscle, a chyle-corpuscle, a mucus-corpuscle, an exudation corpuscle, and a *Pus*-corpuscle.

I have here a specimen of pus, expectorated this morning from the lungs of Mr. ———, a patient in the Hospital, who is in an advanced stage of phthisis. You see that it is a yellowish, creamy, thick fluid; specific gravity 1030; alkaline reaction slight. I now place the specimen under the microscope. In noticing it you will observe that it consists of a fluid (liquor puris) and an histological element, the *pus corpuscles.*

The fluid portion (liquor puris) is perfectly clear at times, then again it is turbid and occasionally slightly yellowish. It coagulates on being heated into a white, dense mass, and has an alkaline reaction.

The pus corpuscles agree in general character with the other cytoid corpuscles. You will observe those now in the field of the microscope possess a granular investing membrane, or cell-wall. They are not all exactly spherical, though that is the prevailing form. The interior is filled with granular particles, often arranged so as to appear as nuclei, of which there are often several heaped upon each other. The pus corpuscles in size are a medium between those of the blood and those of the saliva, larger than the former, smaller than the latter. In diameter they are from $\frac{1}{3000}$ to $\frac{1}{2400}$ of an inch. In size, however, they are by no means uniform. They are large in abscesses, small in wounds, and vary in appearance in different states of the system. A property they possess, and to which their change of form, size, etc. is due, is that of imbibition. The fact is, gentlemen, these little organisims are at times "hard drinkers;" they commence the practice early, and continue it through life, Temperance Societies to the contrary notwithstanding. Place them in a fluid with a density in their favor, and you will notice that they become at once swollen, puffed up. The pathologists call this property *endosmosis,* from the Greek words, *endon* "within," and *osmos* "impulse."

The chemical composition of pus is but partially understood. The amount of solid constituents in 1,000 parts, is 140 to 160. The corpuscles are largely (about two-thirds) composed of fat. Albumen predominates in the fluid, (liquor puris) it containing from 12 to 20 parts in 1,000. Of the solid constituents five or six per cent. consists of mineral substances. There is also in pus a small quantity of oxide of iron.

ORIGIN OF PUS.—"Whence cometh" this substance, is a question for the solution of which you may dredge antiquity in vain· Organized similarly to blood, mucus, chyle, etc., a notion obtained at a very early day, that pus was blood deprived of its coloring matter. Vogel, who, by the way, was among the cleverest of histologists, maintained that the pus globules arose out of a transformation of epithelium, the nuclei of which constituted the corpuscles. Henle, supposed them nothing less than elementary cells, in process of being transformed into those of the tissue which the organism regenerated in the injured parts.

In order to understand the formation of pus, according to present lights, we must recollect that the fluids of the body are at times amenable to two forces, physical and physiological. One of these we call *transudation* the other *exudation.* Transudations are due in large part to physical agencies. We have examples of transudations in the splanchnic cavities and in the areola of the areolar tissue from obstruction of venous circulation and other causes. On the other hand, exudation is a vital process, not a secretion really, but the pouring out of a fluid from the capillaries, as in inflammations, wounds, etc. The fluid thus exuded possesses different degrees of organizability.

In one instance, as in simple incised wounds, the fluid (euplastic) poured out serves as the bond of union between the opposite surfaces, and is subsequently distinguished as the cicatrix; in another, the fluid is less vital, (cocoplastic,) as the pathologists say, and not inclined to the formation of tissue. While now corpuscles are developed in the fluid exuded from the capillaries in both cases, it is in the cocoplastic that pus corpuscles most frequently make their appearance. If the fluid is highly plastic false membrane (fibrin) is most frequently precipitated from it; if in an opposite condition, there is a development of pus corpuscles. In inflammations, false membrane and corpuscles both make their appearance in the fluid exuded; in suppurative wounds mostly corpuscles with shreds of coagulated fibrin. It may also be remarked in this connection, that an exudation may at first be fibrillated, and subsequently from decomposition contain nothing but corpuscles. This takes place often in true croup, diphtheria, pleuritis, etc.

The relation of the pus corpuscles to the surface of a wound has been pretty successfully investigated. Observation shows the exudation fluid to be in immediate contact with the wound, the corpuscles external.

The question may now be asked, what is the mode of development of pus corpuscles? European histologists acknowledge but a single mode, the *endogenous*—for the development of all cells. The latest writers of our own country find no way so proper of accounting for the cells of the blood, chyle, lymph, as by the free cell-development theory; and on this plan they account for pus cells. While now the advocates of the endogenous method have the advantage in the way of arguments, it must, nevertheless, be recollected that arguments settle but little in physics. The process of dividing and sub-dividing, has, as far as we are advised, never been observed with reference to the blood cells, the chyle-cells, or pus-cells. Besides, it devolves on those who take the position we have noticed, to suggest the source of the germs for pus cells. Again, if pus cells come from germs, might we not see the cells in all the different stages of growth?

IDENTITY OF PUS CORPUSCLES.—Does the pus cell differ from all other cells? To this question no sufficient answer has yet been returned. We, but a short time since, were unable to distinguish by the cells between mucus and pus. This trouble has now been surmounted. But there are others. Bennet stoutly maintains that no one can tell any difference between pus cells and the white cells of the blood. Paget says the pus cell is histologically identical with exudation cell.

USES OF PUS.—Pus is a bland fluid and does not impress unfavorably the tissues with which it is in contact. On this account it seems to be incidentally useful in protecting granulating surfaces from the action of air. Unless the granules of a wound are protected they are re-absorbed. Pus, therefore, should never be entirely removed from the surface of a wound unless something else take its place. Pus becomes also useful as the means by which fibrinous deposits are removed from membranes. In pneumonitis the exudation is often changed into pus corpuscles and removed by expectoration. In true croup the fibrin is removed by the development of pus cells between it and the mucus membrane. Pus cells, indeed, often make themselves very useful in cases of croup when drugs have failed. At the critical period they commence like a drove of little rodents and literally gnaw off the false membrane, and thus relieve the patient.

VARIETIES OF PUS—FALSE PUS, ETC.—Are there varieties in pus? A negative answer must be returned to this question. Pus has a certain morphological standard (the pus corpuscle and granules of fat) well defined, and only those substances agreeing in these constituents are entitled to the name of pus. Pus is often degraded, often adulterated. The corpuscles occasionally undergo fatty degeneration. Exposed to a temperature of 80° Fah. they undergo transformations, passing into the acid or alkaline fermentation, or into putrefaction. From scrofulous sores the discharge contains but few pus corpuscles, water being the predominating element. In those of feeble constitution the pus is generally deficient in solid constituents; it abounds in masses of coagula, blood disks floating in a thin serum. Pus is sometimes impregnated with a specific virus, as in erysipelis, syphilis, small pox, the vaccine disease, etc.

Pus is often adulterated with mucasine, caseine, bile-pigments, bile-acids, urea, sugar, blood cells, fragments of tissues, and fibres of false membranes.

While normal pus is bland and protective, morbid pus is as certainly corrosive. In an abscess, or on the surface of a wound, the presence of pus exercises a salutary influence. As soon, however, as transformations occur the very reverse is the case; tissues are broken down, disintegrated, and morbid processes engendered, giving rise to the most troublesome complications. Do not such facts suggest the prompt removal of morbid pus, whether contained in cavities or in contact with wounded surfaces? Satisfied, therefore, of the existence of pus in an abscess, or in the cavity of the abdomen or chest, you should remove it at once. Such, gentlemen, are the directions of Mercury, however much they may conflict with preconceived notions or prejudice.

There are such terms in common use among pathologists as PYŒMIA ICHORŒMIA.

These are the names that have been applied by surgeons and obstetricians to certain morbid processes that have been imagined to involve the presence of pus or some of its transformations in the blood circulating through the system. These processes are characterized by a low form of typhoid fever, and often by multiple abscesses in one or more organs. There must be a large investment of the imagination here. Can pus corpuscles be absorbed and carried into the circulation? The histologist would say no. Such a process is impossible; there being no adaptation of means to ends. If pus corpuscles ever get into the circulation bodily, they must pass in at the cut or ruptured extremity of vessels This is possible, but its probability is quite another question. But it has been stated that pus has been discovered in blood drawn from the class of patients to whom we have alluded. When, however, it is recollected that we have no methods as yet of distinguishing between the white blood cells and pus cells, and especially as the former present themselves in *lucocythemia*, such statements must pass for what they are worth. It has also been supposed (Lee) that because pus possesses the property of coagulating the blood, that, therefore, its presence in the circulation accounts for the coagula filling vessels often in phlebitis. It is one thing, however, to have the property of producing coagulation in recently drawn blood; quite another, to coagulate living blood in the vessels of an animal. Besides, experiments (Lebert, Sedilot) show directly that pus injected into the veins of a living animal does not coagulate the blood.

Does it not now follow that Pyœmia, a name for a disease dependent on the presence of pus cells in the blood, should be expunged?

Having now shown that the absorption of pus is impossible, and that as a consequence we can have no such disease as *pyæmia,* let us for a moment turn our attention to the agency of false pus as a cause of disease. This without any doubt is a prolific source of disease. Where pus loses its normal status, and transformations set in, new agents may, and no doubt are developed in variety. These, too, may enter the circulation and prove innocuous, as happens when the matter of abscesses are absorbed, a process often witnessed by every physician, or the transformation may result in the formation of a toxic principle; in which event the disease would be characterized by symptoms as specific as the cause.

For such disorders Bennet has proposed the name "*ichoræmia,*" which may signify sanies, pus, serum, or any ichorous substance, in the blood, just as the student may prefer. I submit now, to you, young gentlemen, if Toxiconæmia would not be preferable as a name. If then, you are willing, we will call the trouble Toxiconæmia, at any rate, until we have further lights about our feet. This name which we now coin will express the fact that the blood contains a poison, and that is the extent of our knowledge on the subject.

PYOGENIA.—The generation of pus is usually connected with inflammation, though in the present state of our knowledge it would be gratuitous to assert that such is always the case. Under certain circumstances its formation may be regarded as salutary, under others as highly injurious. Some of its uses have been already noticed, and we have only time for an additional remark or two at present. Abscesses have for a long time been regarded as beneficial to the system. A crop or two, often, it has been supposed, served to purge the blood of useless effete matter, that might have occasioned serious visceral disease. What the solid dimensions of such notions amount to, will some day or other, I hope, be fully determined. In pneumonitis, pus is often formed in great abundance in the lung tissue where it coagulates, giving rise to gray hepatization, (a misnomer). Its discharge from here, of course, cannot be regarded in any other than a favorable light.

But, on the other hand, the suppurative process, when involving extensive surfaces, whether of wounds, membranes, or the skin (as in burns), must certainly be regarded as very exhausting, directly, indeed, calculated to waste the forces of life. What more debilitating than the daily discharge of pus in phthisis pulmonalis? Pus being, as we have seen, largely composed of fat, this substance, so general in the organism and indispensable, is drained away by the process of suppuration to an extent that often destroys life.

What now is the remedy for pyogenia, or rather for *pyorhœa*, if you would allow us again to coin a new name for a morbid flow of pus? What would you think of fat as a remedy? We do not propose it, but may not its efficacy in phthisis be due to the circumstance that it supplies the system with the very substance lost? If you wish to make an inferior animal fat, you could not act more sensibly than to feed it on fatty substances, or other substances—as sugar for example—that differ but little from fat in chemical com position.

Interesting Surgical Cases, with Operations, selected from those presented at the Surgical Clinic of Starling Medical College during the first half of the present term: Greatly enlarged Testicle—Castration; Large Cystic Sarcoma of the Breast—Extirpation; Elephantiasis—Amputation; Exophthalmos—Removal of an Orbital Cystic Tumor, including the whole length of the Optic Nerve; Encysted Vesical Calculus—Lithotomy; Acute Ostitis, resulting in separation of the shaft of the Tibia from its head within three weeks—Amputation; Mortification of the leg following Compound Fracture—Amputation; Hemorrhage on the seventh day. By J. W. HAMILTON, M.D., Professor of Surgery.

ENLARGED TESTICLE—CASTRATION.—Oct. 28—The patient was Mr. W. A. S., of Delaware county, Ohio, aged 41. The patient's recollection, as to the time of commencement of the difficulty, was very indefinite, but he thought it was from 6 to 10 years previously. At different times he sustained slight injuries of the testicles, but not more than is common. For two and a half years he had been disabled, and had suffered greatly from neuralgic pains about the loins and down the inside of the thigh.

Patient, at time of the operation, was pale, feeble, and emaciated. For a long time he had not enjoyed a single good night's rest. The testicle was of the size of a quart cup. The greater part of the mass was very hard, and quite smooth. The upper and inner aspect, however, was soft and fluctuating, and evidently the seat of deposition of fluid. There were no proper lancinating pains. The disease was decided to be non-malignant.

The operation was performed by dissecting out the testicle, subsequently unraveling the cord, dividing successive portions, and ligating the arteries as they were cut. The cord was previously secured by carrying a needle through it, loaded with a large thread, which was allowed for a time to remain. Three vessels were tied.

Nothing unusual occurred in the operation, except that more blood was lost than is usual. This was evidently attributable to the mode of operating. When the space between the testicle and external abdominal ring is sufficient, the better mode of operating is to secure and divide the cord first, which prevents a large part of the hemorrhage.

For two or three days subsequently the pulse was accelerated, the skin was hot, etc. These subsided from the use of a mild cathartic. The patient left on the tenth day. Four weeks subsequently I was informed by letter of the patient's perfect recovery.

The specimen was unfortunately thrown into the dissecting room sink, by mistake, without examination.

CYSTIC SARCOMA OF THE BREAST—IMMENSE ENLARGEMENT—EXTIRPATION.—Saturday, Nov. 29.—Mrs. H., of Licking county, Ohio, is aged 34, and is the mother of four children, the youngest of which is six months old. The left breast has never given milk A few months previous to the birth of the first child the breast became enlarged. About two weeks after the birth of the child there was a rapid but only partial subsidence. It then continued quiet till the second pregnancy, when there was a similar increase of size, followed in like manner by subsidence. This was repeated with each successive pregnancy, at which time all the growth has occurred, except that the six months since the last birth has been attended with some increase.

During pregnancy she has suffered horribly, the pains passing through the left side. The patient described them as utterly intolerable. They were evidently not either of the lancinating or darting, but of the dull aching kind, and were especially severe at night.

The patient was a noble looking woman, with every appearance of perfect health. The breast was greatly and quite symmetrically enlarged. It was of the shape of an immense turnip, and was very loosely attached to the subjacent parts. It was even more or less pendulous, and was free from intimate attachments to the skin, which was of the natural color, except so far as it was discolored by the presence of numerous superficial veins.

The case was diagnosed as cystic sarcoma of the breast.

The operation was performed in the usual manner, except that from the great prominence of the mass, and the comparatively small size of the base, a very large portion of integument was removed. Following on the exterior of a dense capsule, which was loosely attached by abundant cellular tissue, the dense mass was removed with great facility. This being accomplished, however, it was found not to include all the mammary gland. Knowing the tendency to recurrence of such growths, after careful consideration, it was determined to remove all the tissues surrounding this base and covering the pectoral muscle. This, because of the absence of any distinct limiting tissue, was tedious, and more or less bloody. In due time, however, it was duly, and pleasantly accomplished. The fatty, cellular, and glandular tissue thus removed amounted to about a pound in weight. The pectoral muscle was thus extensively cleared, a condition in which it is exceedingly desirable to leave the operation. The ligation of two or three vessels, the introduction of five stitches, and the application of strips of adhesive plaster, completed the dressings. In the operation I was assisted by Drs. Spencer, Reamy, and Evans.

The specimen was dissected in the presence of the class. The whole tissue removed weighed about six pounds. It consisted of a dense, rather fibrous looking mass, in which were cavities or cysts, numbering forty or more, and varying from the size of a hazel nut to that of a tea cup. The largest of them was filled with a fine specimen of cream, as were also many of the smaller ones. An incision at almost any point was attended with the discharge of healthy looking milk, even when no obvious cells were laid open. At several different points there were considerable cavities filled with healthy looking butter. One of these contained about half an ounce, while the others were much smaller, not averaging, perhaps, over a half drachm.

ELEPHANTIASIS. AMPUTATION. Nov. 1—The patient, I. T., of Van Wert county, Ohio, was aged about 32 years, and had the appearance of moderate general health.

He was a private in the regular service, U. S. A., at the time of the Mexican war. In one of the battles before the city, he received a number of bullet wounds, three of which entered the right foot and leg. The exact characters of these wounds could not be satisfactorily learned. The patient states, however, that they were the source of great pain and suffering, but healed within the course of a year. The swelling attendant upon them, however, never subsided, but rather increased and extended. From the reception of the wounds to the present time, a period of more than 13 years, the patient has not been free from suffering. While mere uneasiness in the limb has been constant, very severe pain, of a tensive, aching character, has occurred in protracted paroxysms, destroying sleep, impairing strength, suspending appetite, etc. The enlargement of the foot and toes was prodigious. The skin presented the peculiar discoloration, fissures, and elongated papilla characteristic of Elephantiasis, in a most marked degree. These elongated papilla stood erect, projecting from a large part of the surface in a way not unlike the rough surface of a chesnut bur. The skin was not ulcerated, but had assumed a condition in which cleanliness was wholly impracticable. Every effort to cleanse, by moistening, increased the sickening fetor. Ordinary dressing for the foot, by confining the perspiration, did the same. The lower part of the leg was involved in the disease to a moderate extent. Three inches below the knee it appeared to amount nearly to an œdematous condition.

Notwithstanding the success that has attended the ligation of the femoral artery in similar, but slighter cases, in the hands of Dr. Carnochan, and Mr. Erichsen, it was regarded as offering so slight a prospect in this case, as not to justify a trial. Accordingly the leg was amputated just below the tuberosity of the tibia.

The patient being put under the influence of chloroform became violently excited. In the midst of the operation, by a powerful struggle, he broke the buckle of the tourniquet. The artery being secured by trusty assistants, the main vessel, the popliteal just at its division into the tibials, was well grasped by a bull dog forceps, which was given to an assistant. At this juncture another struggle tore off about a half inch of the end of the artery. Time after time, the artery being seized, was in the same manner, jerked out of the forceps, making the operation tedious, bloody, and most annoying. The vessels being finally secured, the flaps, which on account of the large size of the leg had been made long, were secured by eight stitches, supported by interposed strips of adhesive plaster. A marked circumstance is the fact that these flaps never retracted, but rather became elongated. For eight or ten days union progressed but slightly, and was attended with a quite abundant, sloughy, purulent discharge. The pus becoming laudable, at the end of this time, secondary adhesion occurred in the greater part of the wound, so that at the end of three weeks the ligatures had come away, and the union was quite complete. The patient went home at the end of about four and a half weeks.

Dissection.—The subcutaneous cellular tissue was from nine to twenty lines in thickness, and was white, and firm, having a fibrous appearance. The muscles were greatly atrophied, maintained their red color, but were easily broken up. All the blood vessels seemed large. The deep cellular tissue all seemed hypertrophied, and dense.

EXOPHTHALMOS. REMOVAL OF AN ORBITAL CYSTIC TUMOR INCLUDING THE WHOLE LENGTH OF THE OPTIC NERVE.—Nov. 8.—About twenty months since, I first saw Miss P. H., of Madison county, Ohio, a most amiable young lady of 15 years. At that time, from a careful examination, I was led to suppose that an apparently enlarged condition of the eye, was from dropsy of it. Nothing more was heard from the case until within a few days. On seeing it at the latter time, a mere glance dissipated the former view of the case. The eye was now forced from the orbit, and rested upon the cheek, where it presented the natural size. Just behind it, and within the orbit, a hard, apparently smooth mass, could be distinctly felt. It seemed to present near the centre of the orbit, and to extend towards its superior maxillary, rather than toward its frontal plate. The eye was forced directly forwards, rather than inwards or outwards.

The following history was given: More than five years ago the patient had an attack of common ophthalmia, which lasted for about three months, and was very painful. For two years following there was gradual loss of vision in the right eye. Two years ago last August, the loss was complete. A few months subsequently the eye was apparently enlarged. This apparent enlargement seemed for some time to increase, when the deception was detected.

Repeated examinations, with the most careful consideration of all the circumstances of the case, led to the following conclusions: 1. That the disease was not malignant. 2. That it was not exostosis. 3. That the nechanical source of the exophthalmos had its primary origin in the orbital cavity, and not in the antrum. 4. That the tumor was within the optic capsule, and in close contact with the optic nerve, as shown by the failure of vision as one of the first symptoms. 5. That from its smoothness, and the comparative frequency of cystic tumors in the orbit, it was probably of that character. 6. That extirpation was imperatively demanded, and that this could be best accomplished by an incision separating the upper lid from the globe. 7. That the operation should be so performed as to leave the eye, with a view to securing a suitable, moveable stump for an artificial one.

The operation accordingly consisted in separating the upper lid from the eye, the incision extending from the outer canthus about an inch toward the temple. The optic capsule was freely divided. The superior rectus was completely, and the external rectus was partially divided. This gave a fair exposure to the tumor. By the flat handle, in connection with the blade of a dissecting knife, and the occasional use of the finger, the tumor was gradually cleared of its intimate cellular connection with the surrounding parts. Thus it was cleared of all attachments, except at two points, viz: at the sclerotic, and at the optic foramen. It was first separated from the sclerotic. Then a pair of scissors, curved on the flat, were directed to the constricted portion at the bottom of the orbit, which was thus divided. A stream of ice-water, containing all the alum it would dissolve, was now thrown into the bottom of the orbit, by means of a long slender nozel attached to a gum-elastic syringe. In a few minutes this checked all hemorrhage. The eye, with its remaining connections, was now returned to its orbit. From the removal of the optic nerve, and the division of the above muscles, and the elongated condition of others, however, and the absence of any support from the lids, it soon again became extruded in such a way as to throw the cornea flat upon the integuments of the face, and tilt the back part of the sclerotic forwards, so as to make the point of entrance of the optic nerve to be the most anterior part of the eye. Swelling rapidly occurring in the tissues of the orbit, it became fixed in this condition. The swelled lids, with the extruded eye, etc., now presented a rather frightful appearance. Within forty-eight hours the eye lost its temperature, and it was determined to get rid of a portion of it. The most prominent part of it was accordingly transfixed by a cataract knife, and its separation was completed with the scissors.

This being followed by escape of the crystalline lens and vitreous humor, gave much relief to the tension and swelling, and did not interfere with the sclerotic attachment of the muscles. All constitutional disturbance now rapidly subsided, and the swelling gradually disappeared. Considerable sloughs of the remaining portion of the sclerotic separated, but still enough was left to preserve the attachments of the muscles, and secure the object in view, a moveable stump. On the sixteenth day, the patient left the city in excellent condition. The tumor is of an elongated, egg shape, an inch and a half in length, and something more than half as large as a common hen's egg. It has not been opened, as it is considered very desirable to keep it in its present condition. It is evidently a simple cyst within the sheath of the optic nerve, of a consistency suggestive of the presence of an albuminous fluid. At the two ends it is tapered down to the ordinary size of the optic nerve. The under side, where it rested upon the floor of the orbit, is slightly flattened.

ENCYSTED VESICAL CALCULUS. LITHOTOMY.—Mr. S. B., of Brownsville, Licking county, is about 25 years old. Since his fifth year he has had all the symptoms of cystitis. Although his general health has at times been fair, permitting him to learn, and to a considerable extent, pursue the business of blacksmithing, yet he has, during the most of this time, been subject to severe suffering from attacks of cystitis, in several of which he is said to have come near dying. In September last, the use of a sound revealed the presence of a stone. This, and subsequent soundings, always found the stone, in whatever position of the body, in one situation, viz: just behind the upper margin of the pubis, and slightly to the patient's left of the median line. Only a moderate surface seemed to present to the instrument, and although the "click" was quite obvious, it could not be made so loud as can frequently be done. These were dwelt upon as suspicious circumstances, but still no serious embarrassment was apprehended.

The ordinary lateral operation was performed. On entering the bladder, for some time no stone was discovered. Eventually the finger was brought in contact with a small extent of its surface. Medium sized forceps were now introduced, and were readily brought in contact with it. Numerous unsuccessful attempts were made to grasp it. Being finally seized slight traction caused the forceps to slip off. The same experience was several times re-enacted. Two assistants were now directed to press firmly down behind the pubis, which enabled the forceps to get such a hold as to allow of pretty firm traction. This being perseveringly exerted did not still seem to dislodge the stone. It still raised up to its former site whenever the forceps were disengaged. A careful exploration with the finger, at this stage, detected the stone deeply imbedded in a cyst, with a small and tapering end projecting. Firm pressure behind the pubis increased the size of the presenting part, but still left an apparently larger portion surrounded by very dense, unyielding fasciculi of tissue. In order to maintain the hold of the forceps, attached as they were to the tapering extremity, it was necessary to grasp it with great force. This finally resulted in fracturing it in such a way as to leave the greater part of the mass still in its cyst. To extract this the forceps were nearly powerless: fortunately, however, by this time the stone was so far disengaged as to enable the finger to turn it out into the vesical cavity, when it was easily removed.

Aside from the mere encystment, there were two circumstances, to which especially, the difficulty of extraction was attributable—1. The tapering shape of the presenting part, so that, the stone being very hard and smooth, it was difficult to hold it. 2. The situation of the cyst was such that ordinary tractile efforts only tended to press the stone the more deeply into it.

A large female catheter being introduced into the wound, the patient received a dose of morphine, and was put to bed. Not an unpleasant symptom followed. The urine was all discharged through the urethra after the 22d day. The patient left for his home on the 28th day.

The nucleus of the calculus consisted of the oxalate of lime, while the rest was triple phosphate. The stone was of the size and shape of a hen's egg, the smaller end presenting from the cyst.

ACUTE OSTITIS RESULTING IN THE SEPARATION OF THE SHAFT OF THE TIBIA FROM ITS HEAD WITHIN THREE WEEKS. AMPUTATION. December 7. I first saw H. W., a lad of 17 years, in consultation with Dr. Galbraith, of Franklin county. A glance satisfied me that the head of the tibia was separated from the shaft. I received the following history: Several weeks previously the young man had an attack of what the then attending physician supposed was erysipelas of the leg. All the soft parts, from the knee to the ankle, were involved in intense inflammation. In a few days there was extensive suppuration. At the end of about three weeks from the commencement of the inflammation the young man was moved from one bed to another. As this was being done he complained of intense pain, and there was an escape of blood from the sinuses just below the head of the tibia, to the extent, as the mother believes, of a pint. When the limb was adjusted, it assumed the exact shape, say the family, in which I found it. Chloroform being given it was demonstrated as being completely separated at the point mentioned. Even at the time of this examination, only about four weeks from the commencement of the symptoms had elapsed, but I have no sort of doubt but the separation was complete from the time of the removal, a week before. This presents a case which, so far as my observation extends, is without a parallel.

Although all this had occurred with little if any perceptible effort at substitution, yet, the lad's general condition being admirable, it was thought best to put the limb in the best possible shape and await the efforts of nature. For three weeks everything progressed favorably. There was now, however, an acute exacerbation, in connection with which the lower part of the leg, and the dorsum of the foot were mainly involved. This lasted about a week, and evidently grew out of an extension of the ostitis to the whole diaphysis of the tibia. As it subsided it left the whole dorsum of the foot duskily discolored, and this soon sloughed. It was now obvious that amputation offered the only chance of life, but even this was impracticable under existing circumstances. A liberal diet, with anodynes, stimulants and tonics, continued a week, brought about a very fair general condition, when the operation was performed about the middle of the thigh. All the incidents of the operation were most pleasant. There was scarcely an appreciable loss of blood, or shock to the system. For about a week the wound healed finely, and the patient's condition improved satisfactorily. At this time he was attacked with pain about the right pleura. Soon there was cough and the symptoms of pneumonia, of which he died, thirteen days after the operation.

The dissection was intensely interesting. The fibula had entirely escaped. The shaft of the tibia was separated from both heads. The upper part of it had evidently perished at an earlier period than the lower, and was already surrounded by a somewhat dense mass of lymph, perforated by large openings. This was evidently an embryonic substitute, with its cloacae. The knee joint was filled with pus, and its articular cartilage was extensively separated. There were sinuses extending even above the seat of the amputation. More than half the soft parts constituting the foot were found in a sloughing condition.

MORTIFICATION OF THE LEG FOLLOWING COMPOUND FRACTURE. AMPUTATION—HEMORRHAGE ON THE SEVENTH DAY.—December 7. Eight days ago the patient, Mr. F. M. B., of Franklin county, had his leg caught in a fly-wheel in such a way as to produce a fracture of both bones of the leg, at the junction of the middle and lower thirds. There was slight projection of the tibia through the skin, making the fracture compound. As to the particulars of the treatment during the first week I had no definite knowledge. I first saw it twenty-four hours previous to the amputation. To a point an inch or two above the ankle it was livid, cold, and insensible, but presented no crepitation. On the dorsum of the foot were several blisters filled with dark serum, the sites of which could not be altered by pressure. Making an application of warm cotton to the bottom of the foot the patient was sure that he felt a sensation of warmth. The limb was wrapped up in a folded comforter, thoroughly heated before the fire, after a favorite method, as follows: Heating a good thick comforter it was folded so as to be of three thicknesses. Then rolling this strip from each end, two cylinders of equal size were made. Between these the leg was dropped so as to rest on the middle of the folded comforter. Around all this tapes were disposed so as to bind the whole to the leg. Thus every encouragement was given to the circulation and temperature of the limb, while the bones were kept in aposition. A trial of this practice for twenty hours failed to have any salutary effect, for the simple and sufficient reason that mortification of the foot and ankle were already complete. In fact, by this time there was crepitation and a marked fetor. Accordingly, arrangements were made for amputating at the earliest possible moment.

After the patient was under the influence of chloroform, and just as the operation was about to commence, the mother gave a strict charge, that, under no circumstances, should the limb be amputated above the knee. This was regarded as of but little importance, as it was supposed that there could be no reason for amputating at a higher point. The posterior flap being first made by transfixion, the anterior one was made by cutting from without inwards. As this was raised from the anterior tibial muscle, a band of cellular tissue, more than an inch in width, was found black as tar. The mother's very pointed and emphatic charge, now assumed an importance not anticipated. For an instant I was inclined to disregard it, and amputate above the knee. A second thought led to a determination to complete the operation now so far advanced, and if then thought best seek further conference with the friends. On careful inspection, however, it was concluded to remove the discolored cellular tissue, and take the risks.

The operation in all its details was entirely pleasant. The case progressed satisfactorily for a week. At this time, in using too much freedom in turning in bed, one of the ligatures was displaced, and a very active hemorrhage occurred. After two or three hours this was renewed, when it was deemed necessary to separate the partially united surfaces, and make a search for the bleeding vessel. This search was successful, and the artery, a large muscular branch, was again ligated.

This unfortunate disturbance of the wound was followed by a good deal of inflammation of the flaps, and quite an active fever, in connection with which mild facial erysipelas occurred. All this subsided after a few days, and the case again progressed satisfactorily. The wound is now closing rapidly by granulation and secondary adhesion.

American and Foreign Intelligence.

Cramps accompanying Cholera, treated by the Metallic Armatures (Metallic Apparatus.) Translated from the Gazette des Hopitaux. PREPARED BY P. F. C. DESLANDES, M.D.

The excessive heat of the middle of June, and that through which we have just passed since the beginning of August to the last few days, have brought on, as it almost unavoidably happens every year at the same period, a large number of gastro-intestinal affections simulating cholera, and even some well marked cases of cholera. The character of the cholera affections now reigning is in fact a prompt reaction, most usually without any consecutive symptoms, and without any other sequence but an extreme lassitude and prostration, from which the patients are long to recover. It has nevertheless seemed useful to us to take this opportunity of calling the attention of our readers to a very simple means of combating the cramp and spasms so painful which accompany the evacuations of cholera; we mean the application of the metallic *armatures* of Dr. Bury. The following is what this ingenious physician wrote to us a few weeks ago:

"A few days ago, my dear doctor, you had the kindness of ascending with me the 160 steps which lead from the peristyle to the upper floor of the Hotel Dieu, and there, in one of the rooms of Mr. Harteloup, who had done me the honor of calling me to see two of his patients laboring under nervous affections, you have seen metallotherapy represented by a simple copper basin, borrowed from the attending nurse, and two *bands* of metal obtained from Mr. Trousseau's clinic, stop in a few seconds a violent attack of hysteria; and you remember, I have no doubt, that whenever you wished it, I always could in as short a time, alternately suppress or bring back a new attack by removing or reapplying the metal, to follow in the same way, according to your indications, every spasmodic or neuralgic phenomenon which had appeared elsewhere than under the surfaces covered, and finally, once convinced, as if you would rather have it so, your curiosity been satisfied, keep the patient until the end of the attack in the most perfect calm. The experiment lasted, if I remember well, about half an hour, and you had all the time necessary to ascertain that the cold of the metal had nothing to do with this, for after the first ten minutes it was already warm and at the temperature of the patient's body.

"Well, my dear doctor, what you have seen a few days ago, what so many others have seen me do for twelve years since metallotherapy was discovered, I have done it a hundred times in 1849, publicly in the hospitals, and that often in the presence of witnesses like Messrs. Rostan and Bouchut, Michel Lévi, Monat, etc.

"I will speak first of a cholera patient on whom I experimented in Mr. Monat's wards. I pass over the details to come to the point in question.

"G. presented about three o'clock in the afternoon all the symptoms of well marked Asiatic cholera; he had excruciating cramps in the lower limbs. At seven o'clock in the evening the treatment had as yet brought no relief. I applied a copper ring on each leg on a level with the affected muscles. The cramps ceased immediately. At the end of half an hour of perfect calm, I tried to remove the rings, but the nervous phenomena so soon reappeared that the patient entreated me to have them replaced. I had no sooner acceded to his request when calm returned. A little later in the night, the arms were also taken with most violent muscular convulsions. The patient then seized one of the rings he wore on his legs, and used it for several hours in pursuing the cramps wherever they appeared. This time again the metal was effectual, and it is worthy of remark that the right arm, whose hand held the ring, was affected only when fatigue obliged the patient to hold the metal in the opposite hand.

"We are now at the Val-de-Grace. On the 14th of April, the day of my first visit to this hospital, I was taken to a patient attacked with cholera three hours before. This man, in the most dangerous condition, feels all over his body such violent cramps that he disturbs all the inmates of the ward by his incessant agitation and rending cries. At the invitation of Professor Lévi, I applied in his presence a complete *armature* of iron wire, all the pieces of which, ten in number, had been previously warmed. In less than two or three minutes after, the patient had become quite calm. I tried to remove the bracelets from the right arm, and almost immediately the cramps returned in that limb, and in that only. I reapplied them, and they disappeared anew. About half an hour after, Mr. Lévi questioned the patient, who told him that he no longer suffered anywhere except a little in the right side. The perfect tranquility and expression of his face witnessed besides to his sincerity. However, M. Michel Lévi and the assistants were not yet convinced, there might be coincidence. I then removed the whole apparatus, when the cramps reappeared as bad as ever. I replaced it, and they ceased entirely. I offered to renew the experiment, but it was thought useless, and M. Lévi went away, leaving to his assistants, Drs. Masselot and Krug, the care of continuing the observation. These gentlemen remained with me about three quarters of an hour by the patient, and during all that time there was a complete calm—decubitus dorsal, only one vomiting. At twelve o'clock I withdrew, carrying with me the *armature*, which I thought henceforth useless; but hardly was I out of the hospital than already the cries and the agitation had returned as in the beginning. An hour after two nurses were required to prevent the man from getting out of bed. The experiment was decisive. Therefore, from that day, metallotherapy was admitted to experiment night and day in the wards of the Val-de-Grace. What it did there has been reported by Drs. Masselot and Krug in the *Echo du Val-de-Grâce.*

"The results which I have obtained in 1849 with my *armatures*, and those obtained during the epidemic of 1854, have also been obtained by others sometimes with the same apparatus, sometimes with simple copper bands, iron wire, or any other metal formed of an alloy of copper. Among the latter I may particularly mention Drs. Defaucamberge and Durand, who having been sent on a mission in 1849 to the Department of the Haute-Marne, rendered, by their success, the copper applications so popular that at Biesles, Nogent, Mandres, etc., whenever a case of cholera existed in a family an armature of argental was immediately fabricated; the inhabitants of these villages, almost all cutlers, having the argental in abundance (this metal is an alloy of copper, zinc, tin and nickel), and applied it without waiting for the arrival of a physician. Dr. Campardon told me a year ago, that the previous summer, at Montmartre, in a violent case of sporadic cholera, he had also improvised with no less success, a similar apparatus with iron wire bought at the nearest hardware store. The same object may be attained at less expense. During the epidemic of 1849, M. A. Richard obtained the same results on two cholera patients of the *rue des portes* by means of apparatus which are everywhere at hand, by means of simple copper kitchen utensils."

We have ourselves just had an opportunity of trying the simple means so vaunted by our *confrère.* We have just been called to see a young man, seventeen or eighteen years old, of a strong constitution, laboring under a serious attack of cholera: vomiting, whitish stools, præcordial anxiety, extremely painful cramps, cold skin, cyanosis of the face and extremities, weakness of voice, etc. After inducing reaction, and moderating the evacuations, I had to attend to the cramps to which this young man was a prey, and which were most violent. Twice he had been a little relieved by frictions with the opium and camphor liniment used in such cases; but these moments of calm were very short, and the cramps returned as strong as ever. I was at a distiller where metallic utensils were numerous.

I had placed under the legs of the patient a large copper covercle on which the two calves, which were the principal seat of the cramps, rested. In a few moments, and in my presence, the cramps began to decrease, then ceased completely. I had ordered to leave the covercle in place at least half an hour. At the end of this time the cramps had not reappeared, and it was removed. Since then the patient has not felt anything, and has qiuckly recovered.

Quinine as a Prophylactic.

That quinine is a prophylactic against malarious diseases is an established medical as well as popular opinion in many regions of our own country. The same belief obtains in other portions where malaria prevails to any great extent, and still practitioners who have little or no malarious diseases in their vicinity are quite ignorant of this fact. The Sanitary Commission has just issued an interesting circular recommending to the surgeons of the army quinine as a prophylatic against malarious diseases. The report is drawn up by Dr. Wm. H. Van Buren of this city (New York), who has had opportunities of testing the quinine; and as the facts which he presents, confirming the value of this agent, are of general interest to the profession, we shall notice them briefly. In many parts of the south and west the prophylactic employment of quinine is common by planters, for themselves, their families, their overseers, and negroes. Quinine is also used in our merchant service, on the Isthmus of Panama, and in vessels trading with other unhealthy ports, to prevent attacks of fever. The President of the Panama Railroad Company, David Hoadley, Esq., furnished the chairman the following interesting statement: his attention having been called, in 1853, to the unusual amount of sickness which prevailed among the crews of vessels visiting Aspinwall, he was led to investigate the matter, and came to the conclusion that the regular habitual use of quinine by the crews, for a few days prior to the arrival of the vessels at that port, while in port, and subsequent to their departure, would remedy this evil. Accordingly, by the advice of a physician, he recommended the employment of wine and quinine made into a palatable mixture and called "wine bitters." This preparation was immediately placed on board of every vessel of the line, with directions for its use. The result we give in his own language:

"The result of this course exceeded our most sanguine expectations. From its very commencement a change for the better was seen, and during the last four years, in which seven vessels have been constantly employed in the trade, cases of sickness have rarely occurred—certainly not one case in ten, as compared with former times. The practice of using quinine, as above stated, is continued to the present day, and so uniformly healthy are the crews of our vessels that the subject no longer excites our solicitude. I would also remark that the use of quinine by the officers and employees of the company on the Isthmus has been found very beneficial, and in connection with this, and the clearing and settlement of the adjacent country, Aspinwall has become one of the healthiest tropical ports of which I have any knowledge."

Prof. G. B. Wood, of Philadelphia, says: "There is no prophylactic measure against the miasmatic fevers at all comparable in efficiency to the use of this medicine." Dr. De Saussure, of Charleston, South Carolina, believes that he has collected "a sufficient number of data to render the opinion plausible, if not conclusive, that quinine possesses power of protecting the white man from attack of intermittent and remittent fever, or its collaterals, when exposed for even long periods to malarious influences;" and he adds, "that its daily use is in nowise injurious to health, nor does its habitual use render the system insusceptible of its remedial powers." He mentions the following striking examples which came under his notice:

"An overseer agreed to take charge of several rice plantations in one of the sickliest regions of rice culture, undertaking to spend the summer months on one of the plantations. He made no inquiry as to the health of the one chosen as his residence—it was selected from its convenient locality. When warned of the danger of his residing there in summer, he said he would never have the fever. His confidence in his capacity to resist malarious disease seemed unlimited. The result fully justified this confidence. He lived ten years or more in that neighborhood, spending every summer on the plantation, varied only by an occasional visit to the healthy pine land, where his family resided during the summer. He visited his rice fields without hesitation at any hour, day or night, that his business required. He never had an attack of fever during that time. I saw him after he had been there several years; a finer specimen of robust health it would have been difficult to find. It was ascertained on inquiry, that it was his habit to take quinine daily, during the summer, before leaving his house; the quantity he did not know, for he never weighed it."

"He was called in August to see one of the contractors on the Charleston and Savannah Railroad, laboring under a very severe attack of remittent fever, contracted during the superintendence of his contract between the Ashepoo and Combahee rivers, notoriously a very unhealthy region. During his convalescence, he informed me that he would have to return to his work on the road, where he had a large number of hands employed (150); that they were negroes brought from healthy regions in North Carolina, and he expected all of them to be more or less sick, as they were entirely unaccustomed to a malarious climate. I advised him to take quinine daily himself, and to give it to all his hands, white or black. Late in the fall I met him in the city; he looked healthy and well. He thanked me for the advice I had given him; told me he had carried up some pounds of quinine; had used it himself daily, and compelled all his employees to take it also; that he himself had never had another attack of fever; that his health was better than it had ever been, and that not a single one of the one hundred and fifty hands he employed had been attacked by fever. In fact, he said: 'The only case of sickness I have had was in a negro who had come from North Carolina sick.' "

Dr. Van Buren alludes to his own experience while on the medical staff of the U. S. Army in Florida. A serious outbreak of miasmatic disease occurred at the station, and the stock of quinine being exhausted, a substitute was prepared with whisky, the bark of the common dogwood, wild cherry bark, and a small quantity of quinine, which reduced the number of relapses, and mitigated the attacks.

The British naval authorities have long been impressed with these facts, and have acted accordingly. Dr. Bryson states in the Navy Medical Reports (No. xv.) that—

"It has long been a standing rule in the Navy, enjoined by the 9th Article of the Surgeon's Instructions, that when men are to be sent on shore in tropical climates, to procure wood and water, or on other laborious duties, the surgeon, if he consider it advisable, is to recommend for each man, previously to his leaving the ship, in the morning, a drachm of powdered bark (Peruvian), in half a gill of wine, and the like quantity of wine after the mixture; or, if there be no wine on board, one-eighth of a gill of spirits, mixed with the fourth of a gill of water, is to be used in lieu of it; and the same proportion of each is to be given to the men on their return to the ship in the evening."

The British Army has been similarly provided, and the medical officers directed to employ quinine as a prophylactic. During the war of the Crimea, the Medical Director of the Army wrote as follows to the Inspector General of Hospitals:

"With reference to previous letters on the subject of administering quinine, and other preparations of bark, as prophylactic remedies, I have the honor again to draw your attention to the matter. From all I have learnt I am persuaded that the number of cases of fever would be diminished by such a course. So convinced am I, especially by the results of the experience of naval medical officers, of the benefits arising from the prevention plan, when followed in localities in which remittent and intermittent fevers are likely to prevail, that I have taken care to provide ample supplies of quinine in anticipation of every possible demand for that article. Having now at command sufficient of this drug, specially provided for that service, to furnish five grains per diem to every member of a force of 35,000 men, I beg you will take such measures as you think proper, with a view to induce the medical officers to employ that remedy, in the hope that it may prove useful in warding off attacks of fever, etc."

During the preparations for hostilities in China, in 1859, the Director-General issued the following order: "That a stock of quinine wine be provided, in order that a ration of it be given to the men previous to and during the unhealthy months, or when the soldiers are required to proceed up the rivers, or on being encamped in the vicinity of marshy ground. A medical officer should be present when the quinine wine is issued, and to witness the same being drunk by the men."

The committee continue their quotations at length from medical writers and travelers, showing conclusively that quinine is the great prophylactic as well as curative agent in malarious diseases. The importance of this circular at this critical period in the history of our volunteer army can scarcely be over-estimated. The great majority of the surgeons of these forces have been little accustomed to the treatment of malarious diseases. The season has arrived when the progress of the war is to transfer large bodies of troops directly into regions where malaria exists now in the most concentrated form. Unless some prophylactic is employed, these malarious fevers will decimate our susceptible army in six months, and render it impotent against an acclimated foe. Happily it is in our power to shield those who go bravely forth to meet the exigencies of war, from one of those consuming forces which threaten the Northern soldier in his progress Southward, viz., malarious diseases. We cannot sufficiently commend the Sanitary Commission for its prompt recognition of the medical necessities of our troops, and the distinguished chairman for the admirable and convincing manner in which he has presented this subject to the consideration of our authorities and the surgeons of the army and navy.—*N. Y. Med. Times.*

On Indian Hemp, particularly in its relation to its Property of Producing Sleep.

Dr. Fronmüller first employed the Indian hemp in the case of a phthisical patient in the year 1850, and since that time he has devoted himself to the especial study of the properties of this substance. The result has been the production of a treatise founded upon the clinical observation of a thousand cases in which Indian hemp was administered. This plant has been very much extolled by many practitioners in various countries, but has lately fallen into disuse, owing to the supposed uncertainty of its operation. The discredit attached to it is attributed by Dr. Fronmüller partly to the contradictory statements published concerning its operation by various writers, and partly to the difference in its effect in the Eastern hemisphere compared with those observed in Europe. The Indian hemp in India, and that grown in Europe present the same external form, but they differ in the relative proportion of narcotic resin which each contains, and which is the active principle of the plant. It appears that the amount of resin depends not only upon differences of latitude, but also upon the depression or elevation of the regions where the plant is grown. Chemical analysis has discovered that the Indian hemp contains gum, bitter extractive matter, albumen, chlorophyll, ethereal oil, and a peculiar resin. This resin is called *cannabin* by some writers, and forms six to seven per cent. of the dried plant. The ethereal oil has been obtained by Martius only in small quantity; it is of a slightly yellowish color, of a peculiar ethereal camphor-like smell, and an aromatic astringent, and afterwards bitter taste. The preparations of Indian hemp hitherto employed are the powdered plant for pills or powder, resinous extract of hemp in powders or pills, tincture of the resin, and emulsion.

With regard to its application to the practice of medicine, the Indian hemp may be considered valuable as a tranquilizing antispasmodic drug. It has been employed with favorable results in tetanus and trismus, cardialgia, rheumatism, and in some mental diseases. Of 1,000 cases in which this drug was administered by Dr. Fronmüller, 552 were males and 448 females, and the patients were of various ages, from one year to fifty and more. The principal diseases of the patients were tuberculosis, inflammation, surgical diseases, rheumatism, diseases of the eyes, nervous diseases, and dropsy. The greater part of the cases were treated by the spirituous extract prepared by Merk in Darmstedt; but others were treated by the extract prepared by the late Dr. Jacob Bell of London. It is to be observed that all the observations were made on cases in which there had been no sleep for several nights, and in which the continuance of sleeplessness was to be anticipated unless some narcotic was employed.

Out of the thousand cases, it was found that the narcotic property of the hemp was completely developed in 530, partially in 215, and little or not at all in 255. With the extract of Indian hemp, the best effects were produced 145 times with a dose of 12 grains, 64 times with a dose of 8 grains, 63 times with a dose of 10 grains, 35 times with 16 grains, 22 times with 3 grains, 17 times with 2 grains, 15 times with 14 grains, 14 times with 20 grains, 13 times with 6 grains, 12 times with 5 grains. The period of falling to sleep, and the duration of sleep in the cases, are numerically recorded by Dr. Fronmüller, and also the number of cases in which unfavorable results ensued on the day of taking the drug, or on the next morning. Comparative observations were also made with morphia in cases where the Indian hemp had failed. Out of 29 cases in which Indian hemp had produced no effect, sleep was produced by morphia in 24. The dose of morphia was in general rather a strong one—from one-sixth of a grain to two grains—in order to induce sleep. In the remaining five cases the morphia produced no effect.

The conclusion to which Dr. Fronmüller arrives as the results of his observations are the following:

1. That Indian hemp, among all the known medicines which cause stupefaction, is that which produces a narcotism most completely supplying the want of natural sleep, without occasioning any great excitement of the vascular system, without special stoppage of the secretions, without the supervention of unfavorable consequences, and without subsequent paralysis.
2. That Indian hemp, on the other hand, is not so strong nor so certain in its operation as opium.
3. That Indian hemp may be given in all acute inflammatory diseases and in typhus fever.
4. That it is worth a trial to alternate the Indian hemp with opium in cases where the latter fails.
5. That the best mode of administration is the alcoholic extract in small pills which contain an addition of the powder of the Indian hemp. The lowest dose for producing sleep may be estimated as eight grains given in pills of one grain each.

[*B. & F. Med. Chir. Rev.—Amer. Jour. of Insanity.*

Diseases and Sanitary Condition of the Prisoners at Fort Warren, Boston Harbor.

[To the Editor of the American Medical Times.]

Sir:—Since our arrival at this post the health of the prisoners, held by the United States Government, has materially improved, notwithstanding many obstacles at first had to be overcome. While confined on Governor's Island, New York Harbor, the diseases they suffered from most were, measles, typhoid and intermittent fevers, scabies, pneumonia, phthisis, bronchitis, diarrhœa, and dysentery. The pneumonia was sometimes idiopathic, but in a greater proportion of cases it made its appearance during the progress of, or at the commencement of the typhoid symptoms.

The prisoners of war, when first landed, counted nearly seven hundred persons. They were placed in Castle William, which is the round fort, located on an isolated point of the island. The men were poorly clad, with thin clothing, and some of them had already suffered from the measles and other affections. The contour, age, and health of these prisoners, with but few exceptions, was far below the general standard of regular soldiers, and their appearance plainly showed they had recently attended very little to ablution and other important laws of nature. The measles spread in the casemates of Castle William from one company to another, until all liable to the contagion fell victims to its pernicious influence. Happily, each and every one thus seized, passed safely through the disease, although many, for a considerable time afterwards, were annoyed by that common sequela, viz: a short, hoarse, and barking cough. In the casemates the men were somewhat overcrowded, but to offset this, they were allowed extensive limits to ramble, unrestrained, about, and enjoy the fresh air. Particular attention was paid to keeping the quarters clean; and in order that the air might be as pure as possible, these rooms were regularly ventilated and whitewashed. In the issuing of rations, furnishing cooking utensils, and good beds, the prisoners were placed on the same footing as United States soldiers. Although Surgeon W. J. Sloan used his best endeavors to prevent it, typhoid fever broke out and prevailed to an alarming extent among the prisoners. The sick were sent to three different hospitals, and by judicious management, the disease was finally brought under control and many lives saved. The patients were mostly the worst subjects that could be selected, to undergo the fierce ordeal of this poisonous fever. They consisted of young half developed boys, whose delicate frames indicated that they had never enjoyed robust health. The fever was generally preceded by prodromic symptoms, which were soon followed by a marked chill, and then other symptoms ensued which characterized the disease. The countenance became dusky, the skin was hot and dry, the tongue red at its tips and edges. Epistaxis was a frequent occurrence, and the pulse ranged between 90 and 120. The patients complained of intense pain in the back and limbs, and also of a dull headache. There was, in fact, but a slight variation from ordinary typhoid cases. In but few instances were *taches rouges*, petechiæ, or sudamina noticed, and the glands of Peyer apparently remained intact throughout the course of the fever. The force of the poison was evidently expended on the brain and nervous system, and the consequence was, that the fever left its victim almost a complete wreck in strength and vitality.

In the treatment of these typhoid cases, Dr. Sloan and myself relied upon small doses of calomel, opium, and quinine, given in powder three times a day. Dr. S. had previously found great benefits arise from the use of this combination, in a military hospital during the Mexican war. Our patients were placed in well ventilated rooms, and every attention was paid to cleanliness and faithful nursing. Stimulants and a nourishing diet were employed as adjuvants. Local bleeding, counter-irritation, evaporating lotions, and sponging, were used as they were indicated. In cases of obstinate vomiting, small doses of chloroform were given, and when arrested, the calomel, quinine, and opium was substituted. Out of six hundred and thirty-three prisoners of the line, at least seventy-five were continually under treatment, and of this number the greater proportion labored under typhoid fever. In this seventy-five, I do not include the convalescents, who were very numerous, and were constantly requiring attention. The depressed spirits of our patients, caused by "home sickness," retarded very much their rapid recovery, and often had a tendency to influence a fatal result. Notwithstanding this serious obstacle we met with fair success, for during a period of two months we lost but twenty cases, some of whom died rather from exhaustion than the fever itself.

The order, concentrating from various parts the political and war prisoners at Fort Warren, Boston Harbor, was issued in the latter part of October, and was immediately carried into effect. The order gave me but short notice to obtain a suitable supply of medicines, stores, and bedding, for about sixty patients, who it was thought would be benefitted by the change. The Medical Purveyor of New York (Dr. Satterlee, U.S.A.) promptly furnished me a field supply of these articles, and as the fort had been garrisoned by Massachusetts Volunteers, it was supposed the hospital there would be more or less provided. Unfortunately, the volunteers, on evacuating the fort, had carried away or expended most of the supplies, leaving only a sufficient quantity for the use of the mechanics and laborers engaged on the works; therefore, until additional supplies could arrive from New York, there might have been some just cause of complaint. The able and indefatigable surgeon-general of the State of Massachusetts, together with the truly charitable citizens of Boston and the vicinity, offered every assistance and sent comforts to the sick prisoners of war, which tended to alleviate their helpless condition. It would be foreign to my purpose for me to herein mention individual instances of philanthrophy and sympathy, extended towards a suffering enemy, as it has been my pleasure to here witness them; therefore, let it suffice for me to say that the sick under my charge fully appreciate this kindness, which to them was unexpected. The voyage on the transport to this place occupied one day and a half, was pleasant, and proved not in the least injurious to the sick. On first arriving at Fort Warren, typhoid fever raged with its accustomed vigor among the men, but it gradually slackened, as they were better provided for in their quarters. The lessening of the number of typhoid cases was followed by the appearance of the mumps, which affected nearly all the men in command, yet in every case it has thus far yielded to a mild treatment of laxatives, fomentations, and diuretics. The diseases most prevalent at Fort Warren are—typhoid fever, mumps, pneumonia, bronchitis, rheumatism, scabies, and debility (the result of previous sickness).

After our arrival here, it was ascertained that several of the twenty-six prisoners, necessarily left in the hospital on Governor's Island, had been attacked with small pox. The knowledge of this fact caused me to thoroughly examine all the prisoners of war to ascertain if they had ever been vaccinated. To my surprise, I found that this important matter had, in the majority of persons examined, been neglected. Having procured, through the proper sources sufficient virus, I had the prisoners vaccinated. So long a time of probation has intervened since our departure from Governor's Island and our arrival here, that I feel confident we have miraculously escaped this most loathsome disorder. Although the number of prisoners now held at this fort is far greater than the number confined on Governor's Island, yet sickness has been steadily on the decrease, and its severity is now limited to but a few cases. During a period of six weeks there have been at the fort only four deaths, and one of these occured among the regular guard of the Island.

The greater part of the political prisoners are located in quarters similar to those used by United States officers. They are treated with great humanity, ample room is given them to exercise in, and generally they enjoy excellent health.

Yours, etc.,
DEWITT C. PETERS, M.D.,
Dec. 16, 1861. *Assist. Surgeon, U.S.A.*

On Puerperal Insanity.

[We extract the concluding pages of a very valuable article, too lengthy for our space, in the July No. of the American Journal of Insanity, from the pen of Dr. J. H. Worthington.—*Ed.*]

"The prevention of puerperal insanity will consist in placing the female under the most favorable hygienic influences which her circumstances will allow. Care should be taken to guard against every source of exhaustion. It ought to be remembered that the discharge from an extensive surface, like that of the interior of the uterus after parturition, can not fail to reduce the strength of the patient. Her diet, therefore, while it is unstimulating should be nutritious. In her susceptible condition, she should be guarded from all excitement, such as unnecessary visits and conversation, and kept as much as possible out of the reach of anxiety and other painful emotions. Errors of regimen, such as exposure to cold, and indulgence in improper articles of diet, should be avoided. During inaction, if symptoms of anemia should be manifested, the infant should at once be weaned, care being taken to avoid the distension of the breasts with the lacteal secretion, and the formation of abscesses. The return of menstruation should be carefully watched, and especial care taken to avoid every exposure until the function is re-established.

"In puerperal as an ordinary insanity, so little is positively known of the anatomical lesions which characterize the disease, that in forming a judgment of its nature we are obliged to depend on our knowledge of its causes, and the circumstances under which it most commonly originates, rather than upon the structural changes it produces. The data furnished by morbid anatomy are almost entirely of a negative character; autopsies in the fatal cases having generally failed to show any positive evidence of inflammatory action. It is true that the recent researches of Dr. Calmeil have led him to conclude that acute delirium, which so frequently supervenes in fatal cases of puerperal insanity, is an inflammatory discolor of the cortical cerebral substance; yet he considers it an inflammation which is generally, if not always, met with in exhausted conditions of the system, and cannot be treated by active, antiphlogistic measures. In regard to the nature of the affection, Dr. Macdonald remarks: 'When insanity occurs during the puerperal state we would expect to find the disease one of irritation rather than of inflammation; for it is admitted by all that the susceptibility of the female is never greater than during this period. She has been exhausted by utero gestation, while from the growth of the fœtus she has required more nourishment than usual; the irritability of her stomach has perhaps prevented her from using her accustomed quantity of food; she has been debarred from exercise in the open air, that preserver of life and health, and has been worn down by the doubts and fears and anxieties that are so apt to hang over the minds of women under these circumstances. In this state we would not look for inflammation; nevertheless, we may sometimes meet with it, as we do with pneumonia in typhus, or after severe injuries or surgical operations, where there has been great loss of blood and strength. But it is not that active, vigorous inflammation which occurs in strong individuals. It is an inflammation which, judicious practitioners tell us, is often more successfully treated by stimulants in conjunction with other remedies. When it occurs during location we would expect to find a disease of debility, and we do find the mother pale, emaciated, reduced by suckling a large vigorous child, and by nights of watchfulness and anxiety for her offspring.'

"Various therapeutic measures have been proposed in the treatment of puerperal mania, among which may be mentioned local or general blood-letting, tartar-emetic used as a contra-stimulant, warm baths, purgatives, narcotics, etc. I need not enter into any detail respecting the operation of these remedies. It will be sufficient to say, in regard to *all* depleting measures, that notwithstanding the appearance of energy and vital activity which may be supposed to be manifested by the quick pulse and great muscular strength often exhibited by patients in a condition of extreme maniacal excitement, experience has proved, in too many instances, the injurious effects of all remedies of this description. In many cases in which, judging from the high grade of the delirium alone, we might be disposed to believe in the existence of inflammation, and consequently to resort to depletion, pain in the head, increased heat of the scalp, general fever, and other signs of inflammation are absent, and so far from being of service, any active depletion will then invariably render the condition of the patient more unfavorable. If, in an exceptional case, or in one in which the diagnosis is doubtful, the pulse should be found full and strong, and the condition of the patient appear to require depletion, it should be resorted to with the utmost caution, and its effects should be carefully watched.

"In the commencement of an attack of puerperal mania, it will generally be necessary to have the patient placed in a room partially shaded, which shall be kept as quiet as possible, and into which no one shall be allowed to enter except the necessary attendants and nurses. A warm bath, continued for one, two or three hours in the evening, will tend to allay nervous irritation, and promote sleep. The bowels should be regulated by simple laxatives, and as there will generally be found a vitiated condition of the mucous membranes, evidenced by a furred tongue and offensive breath, laxatives should be continued daily with small portions of blue mass, until the tongue shows signs of improvement. Some gentle narcotic, of which a combination of asafœtida, hyoscyamus and camphor is a good example, should be given every three or four hours. The diet should be unstimulating but nutritious, and may advantageously consist in great part of new milk, given as frequently as the patient can be induced to take it, or as the stomach will bear it. If the acceleration of the pulse, the dry tongue, and the increase of maniacal excitement should indicate the supervention of acute delirium, the same treatment should be continued; but in these cases great difficulty will generally be experienced in controlling the movements of the patient, and in administering the necessary food and medicine. In this state there is a strong tendency to prostration, under the combined influence of the excessive muscular efforts of the patient, her almost total deprivation of sleep, and obstinate refusal of food. It is absolutely necessary, under these circumstances, to restrain the motions of the patient, by confining her with a bed-strap, by which means her strength will be husbanded, and the entire management of the case will be rendered more easy and at the same time effectual. It is very important in these cases that the physician should have entire control of the bodily movements of the patient, in order that he may be able to apply warmth to the extremities if it should be needed, and also that he may have it in his power to administer food and drinks in such quantities as are necessary to support the strength of the patient. Unless these cardinal points are attended to, but little good can be expected from the exhibition of medicines. In many cases of acute delirium the patients refuse food with such obstinacy that it is impossible, by any ordinary means to give it in sufficient quantity. The œsophagus tube, which should be small enough to pass through the nostril, must then be resorted to, and a pint or more of milk, beef-tea, or other liquid nourishment, be injected into the stomach twice daily. If there should be increased heat of the scalp, it may be sometimes removed by warmth to the extremities, or by a dose of laxative medicine, or, if these means fail, by the application of cold to the head. Mustard pediluvia in the evening are always of service, and blisters to the extremities have been found useful as a derivative. It sometimes happens, that, with considerable mental anxiety and distress, evidences of cerebral expression will become apparent; the patient is conscious of every thing about her, but appears to labor under difficulty in collecting her thoughts, and in recalling the occurrences of the day. In attempting to do so her mind becomes confused, and the effort fails of its object. With these symptoms of oppression and tendency to coma, I have found, in the absence of fever, the application of a large blister covering the entire scalp to be followed by a decided improvement in the cerebral disorder, and relief to all the symptoms."—*Chicago Med. Journ.*

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. TROUSSEAU.

TRACHEOTOMY.

GENTLEMEN:—When all the medication we may have employed has failed to prevent the propagation of diphtheria in the air-passages, and croup exists; when we have vainly essayed to combat it by the means which I have pointed out to you, and which, I must say, are the more frequently powerless; or when we may have been called to render our services to a patient only when croup has been for a long time confirmed, asphyxia is imminent, and the patient is doomed to certain death; then, gentlemen, there still remains to us one important resource, namely, *tracheotomy.* Advised by Stoll, *(Aphorismes sur l'Angine Inflammatoire,)* who seems never to have seen it done, this operation was for the first time successfully performed in 1782, by a London Surgeon, John Andrée. It was performed upon a child, whose case Jacob Locatelli reported to Borsieri; you will find it set forth in the *Institutes,* (t. IV., *Angina Trachealis,* § CCCCXXXVI.) In the beginning of this century, a French physician, Caron, extolled it anew, although he had performed the operation but once, and then without success. To M. Bretonneau really belongs the glory of the first success, for the case of John Andrée has been very much disputed. After two unfortunate attempts in 1818 and 1820, the illustrious physician of Tours, in nowise discouraged by these reverses, made a third trial in 1825, upon the daughter of one of his most intimate friends, M. le Comte de Puységur, who had already lost three children by croup; and this time M. Bretonneau had the good fortune to save his patient. I believe that I am the second who, following the example of my master, performed tracheotomy in cases of laryngeal diphtheria, and the second one, also, to record a cure. The case occurred long ago. The child on whom I operated was the son of a man whose name has latterly had a certain notoriety, Marcillet, the magnetizer of the somnambulist, Alexis. I reported the case in the first number of the *Journal des Connaissances Médico Chirurgicales* for the month of September, 1833. At the present day, gentlemen, having performed this operation more than two hundred times, I am so fortunate as to be able to reckon up more than a fourth part as successes. Others after me have entered upon the same pathway, and the results have responded to their efforts. From the Children's Hospital proceeded the impulse which I first gave, and at present there is not a pupil having passed a year in the wards of this establishment who has not cause to felicitate himself for having snatched from the tomb, by means of tracheotomy, one or more children who would have been irrevocably lost but for his intelligent intervention. Having become better instructed by the experience of the past, we attach great importance to the subsequent careful nursing which I shall have occasion to press upon your attention, and the proportion of successes has notably increased. At the hospital of the Rue de Sèvres this proportion has been, for a few years past, more than one-fifth ; and this result is considerable, when we remember, on the one hand, the social condition of the children who are brought to the hospital, and the deplorable treatment to which they have been subjected by nurses, quacks, and old women, whose advice is asked rather than that of physicians; when, on the other hand, we recollect especially the attendant dangers of the hospital itself, in which the children operated upon are placed in the very centre of the severest and most varied contagious diseases, so that very often when everything seems to be going on as well as could be wished after tracheotomy, scarlatina, measles, small pox, whooping-cough supervene, and cause very serious complications. Therefore, I do not doubt that in private practice, cure must be the rule in one-half of the cases, provided the operation has been performed under conditions rendering cure possible. These happy results proclaimed on every hand, speak so loudly that all prejudice must fall before them ; and I am no longer the only one to advocate the necessity of this operation, and to insist that it is a part of the duty of the physician to perform tracheotomy ; a duty as strict as that of performing the ligature of the carotid artery after the wounding of that vessel, although in that case death may follow the operation, certainly as often as a cure. If, in the early days of its introduction, it excited opposition, at the present time it no longer meets with hostility, except among envious, evil-disposed, or ignorant persons. The opposition which may be presented to it is in no wise serious, and henceforth this triumph of the medical art has taken its place in the domain of ordinary therapeutics.

Tracheotomy consists in opening the tracheal tube in order to give access to the air, whose passage through the natural orifice of the glottis has been almost prevented. The professor of operative surgery will pardon me for trespassing for a moment on his territory, in order to describe to you, if not according to the rules of surgery, at least in my own way, an operation which physicians are oftener called upon to perform than surgeons.

The necessary *instruments* are a slightly convex and sharp-pointed bistoury, and a probe-pointed bistoury, two smooth blunt hooks, with strong handles; in default of them, we may substitute in their place two hair-pins, which can be found everywhere; a *dilator*, a sort of dressing forceps, curved on its flat side, whose two branches form at their extremity a little spur projecting outwardly, so as to cling to the lips of the tracheal wound, and not to become displaced continually during the movements of respiration. This instrument is designed to dilate the opening made into the trachea, in order to permit the introduction of the canula. This *canula* must be double; one, external, the pavilion of which is pierced with two button-holes, to receive the ribbons that are to be tied behind the neck, in order to hold up the apparatus when it is once in place. Independently of these two button-holes, the pavilion has an upper part, a sort of key, which plays in a slit made in the corresponding part of the inner canula. This latter having a diameter necessarily less than that of the external canula, is provided at its pavilion with two ears, by which it can be seized whenever we wish to withdraw it or return it to its place; it is fastened to the external canula by means of the little key of which we have just spoken, and which should open and shut easily. The diameter of the canula must be sufficiently great; it will never be too great, provided the instrument enters readily into the tracheal tube. Its curve must be that of a quarter circle; thus M. Mathieu makes them all at the present day, and he has adopted this fixed standard in order to avoid the disadvantages which I pointed out to him; the curve of the different canulas which had been presented to me, being before either too great or not great enough, because the workmen continually varied from the type of the instrument which had been given to them as a model. The double canula is absolutely necessary; and in truth, when we see in what manner Van Swieten insists upon the necessity of a double tube, and that too in accordance with the authority of the English author, G. Martins, we cannot but ask how it is that this precept has been forgotten, and how it is that, in spite of the recommendation of M. Bretonneau, who from the very outset of his operations used a double canula not curved, we have been able to remain several years without making use of it.

The dilator is indispensable. Once I lost a child during the operation; it was a little patient under the care of my friend, Dr. Barth. I came to the consultation without knowing what was the case in question, and I found the child dying. Dr. Barth had a canula and a bistoury. I could not put aside the vessels as I would have wished to, because I had no dilator; I groped my way for some time before entering into the trachea, and yet the blood flowed in great quantities into the bronchii and strangled the child, which assuredly would not have happened if I had had a dilator, which would have allowed me to penetrate immediately into the tracheal tube. However, in default of a dilator, we may have recourse, in order to introduce the canula, to the process devised by Dr. Paul Guersant. It consists in arming this canula with a mandrin, a simple sound of gum-elastic, which passes several centimetres beyond the lower opening of the tube. You will readily perceive how much this modification will simplify the manual operation. The sound is easily introduced into the tracheal wound on the finger, which serves as its conductor, and it answers every purpose to slip the canula upon it in order to put it in its place.

Now let us proceed to the consideration of the operation. The patient is lying on a table furnished with a rather thin mattrass, and with a coverlet several times folded; a pillow rolled up, or better still, a roll of cloth should be placed under the shoulders and the posterior portion of the neck, in such a manner as to stretch the anterior region, and to bring as much as possible into relief the trachea, which we propose to look for. This position is without doubt terribly uncomfortable, especially for a person already suffocating, but it will not have to be maintained a very long time. An assistant placed behind the patient will be charged with the duty of holding his head firmly; another assistant, placed in front of the operator, will be charged with the duty of removing the different layers of tissues and sanguineous vessels with a blunt hook, which he will hold in his left hand, while with the right hand he will be ready to sponge the wound with the fine sponges which should be arranged by his side. Other persons will be needed to prevent the patient from moving. Finally, to omit nothing, if you operate at night, some one will have to hold the candle, which should give a bright light. If the operation is performed by daylight, the patient must be placed directly in front of the window of the room, with his feet towards it, so that the light may fall full upon his neck.

These precautions being taken, the physician standing at the right of the patient—I say at the right, and not on the left, because otherwise he will be annoyed by the projecting chin, unless, indeed, he is ambidexter—the physician standing, then, on the right of the patient, will seize the tracheal region with his left hand, while with the right he will make along the mesian line an incision extending from the cricoid cartilage as far as a little above the sternum. The importance of cutting along the mesian line is such, that by reason of not having made the incision following this exact direction, we may be greatly embarrassed throughout the whole subsequent operation; therefore, I recommend to those of you who have no surgical pretensions, to define beforehand the course of the bistoury by a mark made with ink or with a burnt cork. The incision passes successively through the skin and the cervical aponeurosis, and we then come to a small white line which marks the separation of the muscular masses. We sponge away the blood, which is already flowing fast; we then cut along this little white line and separate the sterno-hyoidian and sterno-thyroidian muscles, which, with the blunt hook held in the left hand, we detach from one side, at the same time that the assistant in front of the operator separates them from the other. Here begins the difficulty.

We now come to the isthmus of the thyroid gland, whose size and position, as you know, vary to such a degree that sometimes it only covers the first ring or the uppermost rings of the trachea, while sometimes it has the same height as the body itself. Lower down we find the thyroidian venous plexus, and the artery of Neubauer, when it exists. Then the physician must not forget this capital precept, namely, to respect the vessels. If he sees a large vein he should dissect it, and hold it by drawing it out with the blunt hook. If the left subclavular vein, swollen with blood, projects into the jugular cavity, we must depress it and protect it with the finger, for a terrible accident, I need not say, would be the consequence of wounding it; for a still stronger reason must we pay attention to the brachio-cephalic trunk, which, in the case of children, sometimes projects considerably beyond the supersternal fork.

When we come to the trachea we must free it from all obstacles, and then puncture it by making a small incision as near as possible to the cricoid cartilage, and by directing the bistoury along the nail of the index finger placed at the bottom of the wound. A hissing sound indicates that the trachea is open; we use the sponge, and through the opening made we introduce a probe-pointed bistoury to enlarge the incision. If this incision is made far from the cricoid cartilage, we must enlarge it from below upward in order to avoid the brachio-cephalic trunk. Many practitioners prefer to open the crico-thyroidian space, and to cut the cricoid cartilage and the first two rings of the trachea. A moment's reflection will suffice to make it apparent that in acting thus we must necessarily penetrate into the larynx itself, and that if, as quite often happens, the canula remains several weeks in the wound, a partial necrosis of the cricoid cartilage, and even of the thyroid cartilage, will be produced, which may become the source of the gravest ulterior accidents, besides that an irremediable alteration of the voice may result from it. I speak, it must be understood, of what must be done in the case of croup in young persons and in adults, for when I shall speak to you of tracheotomy in other affections of the larynx, I shall tell you that in that case, when treating aged persons, we are sometimes obliged to act otherwise. In the case which occupies our attention it is merely necessary to open the tracheal tube.

I cannot too earnestly insist, gentlemen, upon the necessity of cutting through the tissues, layer after layer, of removing the vessels and muscles with the blunt hooks, and of stripping the trachea completely before opening it; I insist upon the absolute necessity of operating *very slowly.* If even during the operation the child is strangulated, stop, let him recover himself, and let him sit up in order to get his breath; there will be a minute lost, perhaps, but there is nothing to fear. I have never seen *too great slowness* the cause of an accident, and I have often been the witness of the difficulties and dangers of tracheotomy when *too quickly* performed, even when it was done by a skillful operator.

I therefore oppose with all my power the *expeditious* method recommended latterly by Dr. Chassaignac, and which consists in rendering the larynx motionless by means of a tenaculum, in order to penetrate directly into the trachea by cutting through the skin and the parts beneath with one and the same puncture. This process is, moreover, far from being new. In 1586, Sanctorius, who seems first to have performed tracheotomy, laid down the principle of puncturing the trachea with the trocar which he had invented for abdominal paracentesis.

In 1748 Garengeot also recommended *laryngocentesis* as much superior to the operation by which we reach the trachea by passing through successive layers; still Garengeot* prescribes incision of the skin beforehand, without disturbing the muscles, at least in the case of thin persons. This method, the direct puncture without previous incision, is also advised by Heister,† because it is more expeditious, and because the canula being introduced at the same time with the trocar, the patient is spared new sufferings. Decker, Bauchot, Barbeau, Dubourg, Richter had devised *bronchotomes* in order to render the operation more simple and more expeditious still. Van Swieten, in his commentary 813, in which he has treated of bronchotomy at length, opposed this method, whose dangers he readily perceived, having tried it upon the cadaver and upon living animals.‡ A Bérard, who had himself also devised a process analogous to that of Heister, learned that the quickest method was not always the best, and towards the end of his life he gave it up, to return to the more common and the more certain process. Dr. Paul Guersant likewise adopted for a time the expeditious method; but at the present day, although he operates more quickly and better than those among us who are not surgeons, he proceeds very slowly, in order to avoid the serious difficulties which I have pointed out. On the one hand, there is danger in holding the larynx; for, as Dr. Millard has judiciously observed in his excellent thesis,§ as Dr. Lenoir also said in 1841, (Thesis on Bronchotomy,) by opposing movements which are connected with the exercise of a function already seriously threatened, you run the risk of hastening asphyxia and death; on the other hand, you run the risk of exciting mortal hæmorrhages, if by any chance your instrument should meet with arterial anomalies, as in a case communicated to me by Dr. Richet. While operating upon a little girl who was suffering from croup, he was obliged, at the very moment he was about to open the trachea, to cut an artery almost as large as the radial; there was anastomosis of the two inferior thyroids. A ligature applied to the two extremities of the divided vessel stopped the hæmorrhage, and in this circumstance the skillful surgeon had good reason once again to congratulate himself upon the slowness with which he habitually proceeds in the operation of tracheotomy. In another case, I found the left carotid springing from the innominate trunk and crossing the tracheal artery. Moreover, it is not only not easier to puncture the trachea through the skin than at the bottom of a wound, but also the instrument may deviate from its proper course, and instead of penetrating into the air-tube, may pass into the œsophagus, as actually happened to my colleague, A. Berard. Finally, if, at the very moment when you are about to introduce the canula, a false membrane lining the trachea should get in the way, how could you get at it through a narrow and deep wound? how could you see it in the midst of the flowing blood? Death would then be inevitable.

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* Operations de Chirurgie, t. II., p. 447 et 448.

† Institutions de Chirurgie, t. III., p. 153, annee 1770.

‡ "Tentavi aliquoties in cadavere et in viris animalibus hanc methodum, sed videbatur mini admadum dfficilis, et non carere periculo, ne quandoque valida vi adactum instrumentum deviaret, unde crederem priorem methodum, licet magis operosam, præferendum esse.—(G. Van Swieten, *Comment. in Herm., Boerhavii Aphorism, de Cognose, et Curand. Morbis*, Aph. 813, t. II., p. 627.)

§ De la Tracheotomie dans le Cas de Croup, Paris, 1858.

Some of you who have attended the clinic for several years, will remember a case presented in our wards two years ago. On the 27th of May a little girl four years old, attacked with croup, was brought to us; she was *in extremis,* and I hastened to perform tracheotomy. At the very moment when the trachea was exposed to view, I had cut a rather large thyroid vein, and in order to stop the somewhat abundant hæmorrhage occasioned thereby, I hastened to introduce the canula. Still respiration was not re-established; suffocation was very great, and the face of the little patient presented a frightfully livid, bluish hue. I withdrew the canula and introduced the dilator. The child was in a state of apparent death; respiration was suspended, and the pupils dilated; a sign which indicated that the asphyxia had reached a very high point. We then caused the thorax to perform the movements of breathing, and after a minute and a half or two minutes—the time seemed horribly long to us—we saw the patient make certain grimaces; a full inspiration recalled the air into the chest, and life returned. There had happened what I had already observed in the course of a long practice. A false membrane lined the larynx, the trachea, and the bronchii, and at the moment when I inserted the canula this torn false membrane had become engaged with my instrument, which it stopped up, and completely obstructed the passage of the air. When we had re-established the respiratory movement, after having withdrawn the canula and introduced the dilator, this false membrane appeared at the orifice of the trachea; we could seize it with our forceps and draw forth a long fragment of it, which was branched at its lower extremity. The canula was restored to its place and gave egress to other false membranes proceeding from the bronchial tubes, and the expulsion of which was caused by efforts of coughing, themselves excited by tickling the trachea with the end of a feather. The calibre of these tubular false membranes proved to us that the diphtheritic affection was deeply seated; and although respiration was re-established, we could not deceive ourselves as to the results of our operation. The child, in fact, died during the night.

The expeditious method exposes patients to an accident which sometimes occurs, it is true, when the operation is performed according to the surest method. I refer to *emphysema* of the cellular tissue, resulting from the lack of parallelism between the incision of the soft parts and that of the trachea; and from the fact of the tracheal wound being too narrow, we would have difficulty in introducing the canula. This emphysema has nothing alarming about it. When it is limited to the neck and the immediate neighborhood of the wound, it will rapidly disappear, and is an accident of slight importance. But when it is more extensive and invades the chest, it helps to make respiration difficult; if it attacks the face, it has the additional disadvantage of disfiguring the patient and frightening the family. It may also attain extraordinary proportions and become almost general, an instance of which was observed by Dr. Millard; in such a case it becomes an accident of the most serious nature. Besides the dyspnœa which it brings with it, it gives, by reason of the swelling of all the tissues of the cervical region, such a depth to the wound that the ordinary canula becomes too short to reach even to the trachea, and it becomes necessary to resort to the most painful expedients.

Operate, therefore, slowly—very slowly. The trachea is open, but all is not yet over, and that which remains to be done is the portion of the operation, if not the most difficult, at least that which demands the greatest coolness and presence of mind. In fact, at this moment the blood becomes choked up in the bronchii, and as respiration is then more labored, the venous hæmorrhage, far from stopping, flows with even greater force. We must at once seize the dilator, which should be at hand, then introduce it closed between the lips of the tracheal wound, and when it is inserted open it moderately by withdrawing its rings, This manœuvre, easy as it seems, nevertheless demands some skill. It has very often happened that I have placed the end of my instrument between the muscles, and have introduced only one of its branches into the trachea. Here, too, it is necessary to proceed slowly; we must also go as deeply as possible. When the dilator is well placed the air penetrates readily, the blood, the mucosities, and the false membranes are expectorated, and respiration becomes ordinarily easy. At this period of the operation, the assistant who holds the head of the patient should bring it a little forward, in order to facilitate the introduction of the dilator, by relaxing the edges of the wound, and also in order to favor the exit of the blood and mucosities. If a somewhat abundant venous hæmorrhage takes place, as in the case which I just now mentioned, we must hasten to introduce the canula, and the hæmorrhage will at once cease.

The well-placed dilator will serve as a conductor for the canula, which has previously been provided with a ring of caoutchouc, or with gummed taffetas, designed to prevent the pavilion of the instrument from irritating and excoriating the skin of the neck. This introduction of the canula is often very difficult; sometimes the opening of the trachea is missed, and the instrument is plunged in front of this tube into the cellular tissue. We are notified that the canula is properly placed by the passage of the air and of mucus, and by the facility of respiration. It is indispensable that the canulas should be long, and that they should be inserted into the trachea from one to two centimetres beyond the inferior angle of the wound in this tube. If the canula is too short, it becomes displaced by the efforts of coughing, gets in front of the trachea in a sort of *cul-de-sac*, which is always found there, and the patient dies by suffocation in a few minutes; a frightful accident, which I have three times had occasion to deplore, notwithstanding I had left with my patients students of medicine who had had some experience. In addition, the canula should be firmly fastened about the neck by means of cords.

When we have once penetrated into the trachea, the manner of getting there is in fact a matter of small moment; whether the operation has been performed more or less skillfully or more or less rapidly is equally immaterial, provided we have avoided hæmorrhage, for loss of blood has a very bad influence upon the sequelæ of the operation.

The subject of *treatment* remains to be considered. This wholly medical subject is so important that henceforward it will play the principal part, for while some almost invariably lose all their patients, others save a third part, and sometimes half of them. I should do wrong in speaking only of the treatment *to be* followed; we must also take into consideration that which has been pursued. Let us say at once, for it is the exact truth, that at the present day the greatest number of physicians are fortunately satisfied that the general medications of which I have spoken to you are often useless; that the chances of success will even be greater in the same proportion as these medications may have been less energetic; that blisters especially are attended by the serious disadvantages which I have pointed out to you; and the result is, that they no longer exhaust their little patients by sanguineous emissions, and that they are very careful not to apply blisters. I am, for my own part, thoroughly convinced that if we have been more successful in tracheotomy during a few years past, it is to be attributed as much to the happy direction of the treatment adopted by our associates, as to the method which I have recommended.

Before entering upon this subject of subsequent treatment, I must call your attention to a few details relative to the dressing of the wound, to which I may seem to attach an exaggerated importance; but the older I grow, the more convinced do I become that in therapeutics the minutiæ occupy a much more important position than is commonly believed.

I have spoken to you of the bit of caoutchouc or waxed taffetas which should be placed between the pavilion of the canula and the skin, in order to prevent this latter and the wound from being irritated by the instrument and by the ribbons which keep it in its place.

The neck of the child should be enveloped in a *cravat* of knit wool, or in a large piece of muslin, in such manner that the child will expire into the tissue enveloping the neck, and inspire warm air impregnated with the vapor of warm water produced by the expiration. This is a capital precept; we thus avoid the drying of the cavity of the canula and that of the trachea; we avoid irritation of the mucous membrane and the formation of coriaceous crusts analogous to those formed in the nasal fossæ of individuals attacked by coryza; crusts which, becoming detached in complete tubes, or fragments of tubes, cause frightful attacks of suffocation, and sometimes death, by the closing up of the canula. Before Dr. Paul Guersant and myself had adopted this method, we lost a great number of our patients by catarrhal pneumonia, but at the present time this accident is much more rare. It is probable that the introduction into the bronchii of warm and humid air is an infinitely favorable condition.

This method of surrounding the neck of the patient with a cravat had been pointed out by the ancients. The end they had in view, however, was to prevent the entry into the canula of dust, or of small bodies which might be floating in the air. As G. Martins has observed, it was a chimerical fear. Garengeot, however, had really seized the true indication when he recommended the placing of cotton in front of the canula, in order *to modify the air entering into the trachea;* or better still, to put over the orifice of this canula either a pledget of very light lint, or a piece of linen of rather coarse texture.* But independently of this precaution, useless as to the point of view from which they regard it, the ancients recommended that the air of the chamber in which the patient rested should be kept warm, for cold air might be injurious, that which reaches the lungs by the ordinary avenues of respiration being warmed in its passage through the mouth and the nasal cavities.† In our time it has been proposed, in order *to comply* with this indication, to use in the apartments the vapor of water, but we can readily understand that this method could not take the place of the more simple and more convenient method of the cravat.

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* I shall be permitted to reproduce here textually the passage from Van Swieten, relative to this subject:

"Soliciti pariter fuerunt plerique hujus operationis descriptores, ut caverent ne rina cumære pulvisculi in illo volitantes patulum tubi orificium intrarent libere; hinc gossipo, linteo carpto, spongia, etc., tegi voluerunt extrorsium patens tubuli orificium. *Martinius* tamen usu didicit nullam notabilem inde noxam ægro accidere, licit non tegeretur tubuli orificium, quamvis etiam in domo non adeo nitida decumberet æger; si tamen inde quid metueretur, posset hoc facile evitari, si collo circumduceretur laxe rarum linteum, spleniis ita in vicina tubuli dispositis, ut illud quidem tegeret tubi orificium, non tangeret."—(Van Swieten, *loc. cit.*, p. 628.)

† "Expediet tamen ut ær parium calidior sit in loco quo decumbit æger, cum frigore suo nocere plus posset quam dum communi respirationis via in pulmonem trabitur, semper in transitu per os vel nares calescens utcumque." (Van Swieten, *loc. cit.*)

There is also another thing to be done, without which cure is rare; I refer to the *cauterization of the wound.* Immediately after the operation, and also the first four succeeding days, all the surfaces of the incision must be vigorously cauterized once during the twenty-four hours with the stick caustic; thus we shall avoid an accident greatly to be feared—the diphtheritic affection of the wound, which becomes covered over with thick and fœtid false membranes. The specific inflammation, spreading in the surrounding cellular tissue, often develops in it a phlegmonous erysipelas of bad character, which becomes the seat of local gangrene, and at least of a violent symptomatic fever and general infection, from which recovery is rare. Dr. Millard says in his thesis that this cauterization is never performed by him at the very time of the operation; and according to information which I have gathered from one of the sisters attached to the hospital of the Rue de Sèvres, who has a thorough acquaintance with the treatment followed by my colleagues, the cauterization is never made, at the earliest, sooner than twenty-four hours after the operation; in addition, the child must be docile, and should have no fever, in which case they wait until the fever has subsided before cauterizing. I could not adopt this method of operating, because I have too often had occasion to know its disadvantages. When the fifth day has come, the surface of the wound is modified to such a degree that these accidents are no longer to be feared.

The operation being performed, the first thing of which the physician ought to think is the *alimentation.* Alimentation, and I have on several occasions, gentlemen, insisted upon this point, is the remedy *par excellence,* for the greater number of acute diseases, and especially for the diseases of infancy. Assuredly, abstinence, prescribed by Broussais, and still advised by a great number of physicians who cannot free themselves from the old man, and who retain too many of the prejudices of their early medical education—abstinence is one of the most mournful complications of diseases; the best suited to keep up the infection of the economy, and to open the door to the absorption of exterior miasms, and of the vicious excretions originating in the diseased body, and most opposed to that capacity of resistance which is the great promoter of convalescence and final cure. I do not mean that we must stuff our little patients with food; I mean only that we must satisfy their appetite, if they have any, and must force them to eat a little if they refuse their food altogether. I return to the point which I have already dwelt upon when speaking of the treatment of diphtheria in general: do not fear to employ intimidation. In that case, by assuming an apparent severity, whose expression I have exaggerated, I have many times compelled children to take nourishment, and I have prepared the way for a cure, which, without it, I had deemed impossible. Milk, eggs, cream, chocolate, soups, are the articles on which I have most insisted. If it is necessary, we must have recourse to the œsophageal sound, in order to introduce into the stomach the liquid food and nourshing drinks which the child refuses to take.

What I have just said sufficiently indicates that I prohibit, in the most formal manner, the continuation of the remedies, which, before the operation, may have been deemed more or less useful, namely: calomel, alum, purgatives, emetics, which cannot be compatible with the alimentation that I recommend

It is a remarkable fact, that when tracheotomy is once performed, we no longer have to concern ourselves about the pharyngeal or laryngeal diphtheritic manifestations, which previously required to be so vigorously opposed; they get well of themselves. It seems that the disease, when it has reached the air-passages, has exhausted all its force; and if, by affording a passage to the air into the respiratory apparatus, by means of tracheotomy, we prevent the patient from dying, cure will naturally result. I speak of the pharyngeal and laryngeal diphtheritic manifestation, for the cutaneous manifestations must be vigorously combatted from the outset, by the topical remedies which I have pointed out, under penalty of seeing them become the occasion of an ominous resorption and a general infection, which must at any cost be avoided.

In the earlier operations of tracheotomy which I performed, I prescribed, after the example of M. Bretonneau, the sponging out of the trachea as far down as possible, with a small sponge fastened to the end of a piece of whalebone. Long since, I renounced this operation, as also the cauterization of the trachea, which I did either with the aid of a sponge filled with caustic, or by instilling this caustic in solution in the water. These manœuvers have seemed to me to be attended with more disadvantages than real advantages. I will say the same also of the *instillation of the chlorate of soda*, devised by Dr. Barthez, who, after having made them the subject of a communication to the Medical Society of the Hospitals, has himself discovered and acknowledged the uselessness of them.

An essential point is the frequent cleansing of the internal canula, so as to render the entry of air as easy as possible. I recommend that it should be cleaned every two hours.

There now remains a final part of treatment, of considerable delicacy, and upon which I wish to dwell for a moment: it is that which concerns the withdrawal of the canula, and the final closure of the wound.

I do not speak of the method recommended by Dr. Millard, and which consists in at once withdrawing the canula after the first dressing of the wound, which my young and intelligent friend is accustomed to do at the end of the first twenty-four hours. Dr. Millard purposes, by acting thus, to aid the expulsion of the voluminous false membranes, which, being held back by the canula, might obstruct it, and excite attacks of suffocation. Doubtless, in the cases in which this suffocation would be produced, the indication is precise; but in ordinary circumstances I do not see the advantage, still less the necessity, of following this method. Nevertheless, I would assert it as a principle, that the sooner the canula is definitely withdrawn, the better it is; but it can rarely be withdrawn before the sixth day; and it should rarely be left beyond ten days. However, there are cases in which the larynx will remain completely closed during fifteen, twenty, forty-four days; an example of which I have seen in the case of a young girl, who, moreover, recovered. I call to mind, also, a child, who retained his canula for five years. This patient is still living, but he has a fistula of the air-passage.

At the end of the first week, the canula should be withdrawn, care being taken not to frighten the child, nor to make him cry. The poor little ones have become so accustomed to breathe through an artificial passage, that when we close this tube in order to facilitate the passage of the air through the larynx, they are seized with fright, which is expressed by agitation, by cries, and consequently, by an acceleration of the respiratory movements. The larynx is still somewhat obstructed, either by slightly adherent false membranes, or by mucus, or by a slight tumefaction of the membrane; and besides, the laryngeal muscles have, perhaps, lost the habitude of contracting in harmony with the needs of respiration. There often results from this very great oppression; in the greatest number of cases, this oppression passes off well enough, if we can succeed in tranquilizing the little patient, and this is a part which belongs rather to the mother than to the physician. The wound should then be closed with fillets of English taffetas. If the sound of the cough and of the respiration, if the nature of the voice or of the cry indicate that the opening of the larynx is sufficiently large, we leave the dressing of the wound as it is; but if the air only passes in an insufficient quantity, we do not put on the fillets; we merely place on the wound a piece of linen covered with simple cerate, and wait until the next day to close it. If the air does not pass at all, we replace the canula, and two or three days later we recommence the attempt. As soon as respiration is well performed, in spite of the closing of the wound, we renew the dressing three or four times a day, and ordinarily the opening of the trachea is closed at the end of four or five days: there only remains the external wound, which we simply dress, and which soon heals in its turn.

There is a somewhat serious accident to which I have for a long time directed the attention of practitioners, and upon which Dr. Archambault has more especially insisted. I refer to the difficulty of swallowing. This difficulty consists in the passage of drinks through the glottis; there results from this a violent and convulsive cough each time the child attempts to drink, and the liquids which penetrate into the tracheal tube and the bronchii spurt in abundance through the opening of the canula. Besides the sufficiently serious disadvantages which may result from the contact of liquid food with the mucous membrane of the bronchii, food sometimes insoluble, and consequently irritating, there results from it especially an insurmountable disgust, and children rather suffer death from hunger than consent to take nourishment. Too often has this complication been the cause of death after tracheotomy, notwithstanding that I have used every effort to apply a remedy for it. The best method is to interdict all liquid food. I give to children very thick soup, vermicelli in milk or broth, to be eaten with a fork, and not with a spoon; hard eggs, eggs in milk, very much cooked, and meat slightly cooked and in rather large pieces; and I interdict every sort of drink. If thirst is too intense, I give pure cold water, and I take care to give it a long time after the meal, or immediately before it, in order to avoid vomiting. We must remark, however, that the accident of which I speak scarcely ever manifests itself earlier than three or four days after the operation, and that it rarely continues later than the tenth or twelfth day; however, I have seen it continue much longer in the case of certain little patients.

It would seem that the larynx, which opens so readily to receive drinks and liquid food, would be sufficiently open to permit of the air necessary to supply the needs of respiration; it is, however, not so. We withdraw the canula, and we perceive that the opening of the larynx is still insufficient; and even when, a few days later, we have been able to close the wound with agglutinatious fillets, the accidents continue with the same violence.

It is rather difficult to account for the cause of this accident. Dr. Archambault thinks that the child who has breathed through a canula for some days, loses the habit of giving harmonious movements to the muscles, which serve to close up the larynx, and to those which push the food into the œsophagus; and he says that he derived some benefit from the use of a rather ingenious method, which consists in closing the canula with the finger at the very moment when the patient is about to swallow something; thus the child is obliged to use his larynx, and the normal harmony is reestablished. This little stratagem, in fact, succeeds very well in some cases, but in others it fails completely; and what I have said above demonstrates this, since, at the very time when the canula has been withdrawn and the wound is completely closed, the difficulty of deglutition continues, although the laryngeal respiration is perfectly free and regular; this depends, probably, upon the fact that the muscles of those parts have been affected by the paralysis of which I have spoken to you.

And now, gentlemen, I have set forth to you all I had to tell concerning tracheotomy and the various measures for performing it successfully. I have repeated to you what I have told you a hundred times during many years past. I would leave the subject, however, incomplete if I did not speak to you now of the conditions under which the operation ought to be performed.

And first, *At what period of croup is the duty of resorting to it most urgent*? In 1834, I wrote in the September number of the *Journal des Connaissances Médico-Chirurgicales.* I repeated in 1851, in an article entitled "*Nouvelles Recherches sur la Période extrême du Croup,*" what you will find inserted in the journal *l'Union Mèdicale,* as follows: "So long as tracheotomy was in my hands an unreliable remedy, I said—we must perform the operation as late as possible; now that I can reckon up numerous successes, I say, it must be performed as early as possible." Taking from this proposition that which makes it appear too authoritative, and I still maintain it, when I say that *the sooner the operation is performed, the greater are the chances of success.* The ingenious experiments of Dr. Faure have, in fact, demonstrated that, by asphyxiating an animal slowly and methodically, there are produced during the last moments of life blood-clots in the heart and in the large vessels; we must, therefore, operate before death is imminent; but I hasten to add, that whatever may be the point to which suffocation has reached, even though the child might have but a few moments more to live, tracheotomy should be essayed; there is a chance of success *when the local lesion, when croup constitutes the principal danger of the disease.*

This restriction is important; for if the diphtheritic infection has profoundly affected the economy; if the skin and the nasal fossæ are attacked by a special phlegmasia; if the frequency of the pulse, delirium and prostration, indicate a deep-seated poisoning of the system; if, in a word, you have to do with the malignant form of diphtheria, in which the peril consists, rather in this general condition of the system, than in the local lesion of the larynx or of the tracheal tube, *the operation must not be attempted;* death will invariably result.

The condition of success which leads all others, as Dr. Millard has well said in his excellent thesis, is the predominance of the characteristics of asphyxia among all the symptoms presented by the disease. "Unfortunately," as our confrère has also justly observed, "it is not always easy, in the midst of a combination of symptoms frequently very complex, to distinguish with certainty the disorders due to the mechanical affection, and those which are the expression either of the diphtheritic affection, or of a complication of another order." We are often obliged to resort to the urgent indication of causing a dying child to breathe, at the risk of discovering afterwards that he had no chance of recovery; and even when we suspect that he carries within himself the germs of death, we are still compelled, in the absence of an absolute certainty, to perform the operation almost without hope. "Operations of tracheotomy, performed under these circumstances," says, in conclusion, the author whom I take pleasure in quoting, "are attended by no other disadvantages than that of figuring among statistics in the same rank with others; they run the risk also of misleading opinion, and of bringing into discredit one of the most beautiful triumphs of the medical art. But the fear of diminishing the list of his successes should not by any means cause the physician too quickly to discard the operation; not until he has made a minute and thoroughly discriminating analysis of all the symptoms, and has detected a certain cause of death, has he the right to assume so serious a responsibility. This right we have exercised on several occasions, in cases about which there could be no dispute, without ever having had reason, on the autopsy, to regret having done so; but in every instance where we have harbored the least doubt, even though these conditions were very inauspicious, we have nevertheless taken the bistoury in hand, penetrated with the truth of the axiom, *Melius anceps quam nullum.*" These, gentlemen, are wise and prudent words, and for my part, I accord to them my entire approval.

Finally, one subject more remains: it is that of *age*—a capital subject, demanding great consideration. I have told you, gentlemen, that among adults, tracheotomy, in cases of croup, did not succeed as well as with children; I have given this, perhaps unsatisfactory, explanation of it, namely, that in adults the anatomical disposition of the parts permitted a free passage of the air into the lungs for a much longer time, so that diphtheria had the opportunity to reach the bronchii and their most remote ramifications, before we would be compelled to have recourse to tracheotomy; but among children, this success is so much the more certain as the patient is the more advanced in years. This clearly appears, from the statistics prepared to elucidate this fact, from those among others published in the work of Dr. Millard. You know that before the age of two years croup is rare; but as you might nevertheless meet instances of it, as I have myself met with it in children still at the breast, it is essential that you should know that at this period of life tracheotomy has but few chances of success. However, in 1834, I operated upon and cured an infant, thirteen months old, and I ask your permission to reproduce here the history of the case, as published in the number for June, 1834, of the *Journal des Connaissances Médico-Chirurgicales.*

On Sunday morning, May 11th, 1834, Dr. Corsin sent for me to see the child of a cartman, de la Petite-Villette, named Pierre Droolinger. It was a little boy, thirteen months old, still at the breast. He had been coughing for four days, but during Saturday night great oppression supervened; his cough, at first hoarse, ceased entirely, and he had lost his voice. Dr. Corsin was called, and finding the patient already in a desperate condition, he merely prescribed an emetic potion, and sent at once for me. The symptoms of croup were very evident, and the attacks of suffocation were so severe, and followed one another so closely, that I made preparations to perform the operation of tracheotomy.

The operation was laborious, and lasted more than ten minutes; finally, I opened the trachea, and at the very instant a large shred of false membrane spurted out some distance. I cleansed the trachea and the bronchii, instilled eight or ten drops of a solution of nitrate of silver, and inserted a cenula. The poor child breathed easily; he looked at us in affright, and sought his mother, who had fled the house. We caused her to be called, and when she came the little one stretched out his hands to her with joy, at once began to undo her dress, and the handkerchief which covered her bosom, and seized the breast with avidity. For three days the canula was changed morning and evening, and every six hours we instilled nitrate of silver; on the fourth day it was injected for the last time. Every hour a few drops of water were thrown into the trachea, and the canula was sponged out. For ten days water was instilled. The child brought up pellicular concretions during four days, but on the second day, especially, he expectorated one which had considerable thickness.

The fever, which made its appearance a few hours after the operation, passed away on the third day. On the seventh day, the introduction of a new canula irritated the wound, caused the neck to swell, and excited anew a high fever. These accidents were quieted on the ninth day; on the tenth, the air passed in great measure through the larynx; on the eleventh, I withdrew the canula and closed the wound. The following day, air passed only through the larynx.

Very recently I had a second case of cure, somewhat similar to the former, although in the latter case the child, being two years old less six days, might be classed within the extreme limits of the age which I have pointed out to you. It was a little girl, born on the 30th of April, 1856; she was brought into our wards on the 24th of April, 1858, and presented all the signs of the last stage of croup. We found no trace whatever of pharyngeal diphtheria. I operated, and after the operation shreds of false membranes were discharged through the wound in the neck. Convalescence was long and difficult. Although unsuccessfully attempted several times, the final withdrawal of the canula could not be accomplished until the seventeenth day. Diphtheria attacked the wound, and yielded only to repeated cauterizations. Finally varioloid supervened, but did not prevent her recovery. The child was taken from Hôtel Dieu on the 13th of May.

Science reckons a third case similar to these two; that mentioned by the *Gazette Médicale* (1841 and 1842): it was the case of a child twenty-three months old, who was operated upon and cured by Dr. Maislieurat-Lagémard.

That which among such young children lessens in a marked degree the chances of the success of tracheotomy is the lack of vital resistance, and the difficulty of nourishing the patients; there are also complications to be dreaded, such as the convulsions which are so easily occasioned at that age. Finally, the operation in itself is difficult, by reason of the smallness of the trachea and the shortness of the neck.—*American Med. Monthly.*

Letter from C. Y. Swan, M.D.

To the Editor of the American Medical Times:

PARIS, Oct. 10, 1861.

SIR,—I told you in a preceding letter that M. Maisonneuve intended to amputate limbs by means of his caustic arrows (*caustique en flèches*), and that the reason he would prefer them to écraseurs and catlin(g)s was because no bad accidents ever ensued upon their use for the destruction of tumors.

He has kept good his promise, for last week he essayed this novelty in surgery, and unfortunately or fortunately (decide for yourself), it was without success—the patient died; of course no other result could have better pleased the neighbors of Maisonneuve. In justice, the death argued nothing against the method of operating, which the facts readily prove. The case was one of Hospital gangrene, situate on the hand, already extending up the arm, and already the system poisoned; when Maisonneuve, knowing that amputation after the ordinary manner would be certainly fatal, broke the bones and transfixed the arm at the same point with a fence of *flèches*. Death followed, but the operation bore no relation to the cause.

Some other inventions by the same surgeon will perhaps appear more refined, and therefore more acceptable to American hands. These are for Urethrotomy and Tracheotomy. The former has been already well tested and its superiority proved; for the latter I cannot say so much, as it is but a few days old. The advantages claimed for the Urethrotome are—1st. That the operation is rendered safe and simple. 2d. That the operator feels positive that he cuts nothing but the stricture itself. 3d. That there are no serious after-effects. The mode of operating is as follows: The stricture must be passed, and for so doing a fusiform bougie is first introduced, to which is then screwed a catheter equally fine, having an open seam its whole length. The fusiform bougie coils itself in the bladder, its duty being finished after having conducted the fine catheter through the stricture. The stylet is then put in, and the blade, much too large to be *contained* in so small a catheter, by means of the slit, travels outside, apparently very much endangering the urethral membrane. The membrane though, elastic as it is, is uninjured, owing to the blade being without edge except at its extremity, and consequently all parts, and they only, that resist get cut. The blade resembles the half of an oblong lozenge, and not much sharper except at the bow. Still better, perhaps, I might compare it to a little boat which, starting from the meatus, sails down the canal steered safely by stylet and catheter. If any obstacle is met with it tries to push it aside, and if impossible, the bow cuts the way. It is thus evident that the blade, by its conformation and undeviating guidance by the catheter, cannot cut any thing but that which is desired, namely, the stricture. Spasmodic stricture will not be cut by it, from which it would almost appear as if the instrument was endowed with instinct. The operation is almost painless, so much so that in several instances the patient has been allowed to operate on himself. M. Maisonneuve states that he cuts strictures in his office, and lets the subjects walk to their home, the same as though he had only made an injection. There has never been a serious hemorrhage or accident of any nature following his operations.

The Tracheotome enables the surgeon to operate with the greatest ease and despatch. I can't say that the danger of hemorrhage is rendered less likely than by the old method, but sometimes rapidity of execution is quite as important as the avoidance of hemorrhage. It is not yet perfected, but thus far the instrument may be compared to a curved needle held in a pair of forceps at right angles, as is commonly done in stiching wounds. Suppose the needle to have but one edge, and that on its concavity instead of sides, an arrow point, and about one and one-half inch long. This cutting needle is firmly fastened to a handle at right angles, not unlike the key of a turnkey. The modus operandi is to pierce through the crico-thyroid membrane, pass down the trachea as far as the length of the blade permits, and most naturally by virtue of the same continued revolving movement the point makes its exit. So far it seems like the third step in ligaturing. Turning further brings into play the edge of the blade which, in cutting the part embraced between heel and point, makes a complete somerset, the point re-arriving a little above where it first entered. But the cricoid cartilage, although embraced by the blade, is not severed, being saved by the bluntness of the heel. A proposed addition to this instrument, now making, is to open the mouth of the wound, and thus with *one single stroke* the trachea is ready for a tube.

Our well-known countryman, Dr. Marion Sims, has been well received by the Frenchmen. He has operated at the St. Louis and Beaujon with his customary success, and besides has given demonstrations on the cadaver.

Double Vision from Injury of Head.

To the Editor of the American Medical Times:

Sir,—The following case of double vision, which has lately come to my notice, is a peculiar one to me, and in the hope that it may prove such to some of your readers, I cheerfully place it at your disposal:

Mary McDonald, aged 12 years, while carrying a pitcher of milk, was thrown down on the sidewalk by a dog running against her; she walked home, but felt herself weak. Shortly after reaching home she commenced to vomit. This occurrence took place on Saturday evening; I saw her early on Monday morning. She was vomiting considerably—face pale, pain in head, but not severe;

pulse regular and rather slow, not over sixty-five; bowels confined. I concluded that vomiting arose from concussion, and accordingly ordered one leech behind each ear; powders of calomel and scammony every two hours till bowels were freely moved; also, sinapism to nape of neck. On Tuesday, the vomiting was relieved, pain in head diminished, and bowels were freely opened; skin cool. On looking at me, she said that I had two heads, and that her mother had the same. I closed one of her eyes, she then saw only one head and face; I shut the other eye, she saw me equally as well. On holding up a finger, she saw two with both eyes, one finger with one eye; pupils contract and dilate regularly. I ordered a leech to each temple, bowels to be kept regular with "black draught." The day following, she was very much improved, and the double vision had all disappeared. She continued convalescing, and is now entirely well.

Yours, etc., JOHN BURKE, M.D.

Treatment of Eczema. By Prof. HEBRA.

The Doctor observes, in one of his clinical lectures, that eczema can always be cured. The treatment should be purely local, internal measures being limited to the rare cases in which the eruption has been produced by a previously diseased condition of the system, or when it is combined with some other affection. In the great bulk of cases, internal means, such as mercury, antimony, iodine, purgatives, sarsaparilla, etc., are superfluous and mischievous. Arsenic is the only one of such means which exerts any influence in obstinate cases; ordinarily, however, it is of no use and its employment should be limited to the few cases which manifest especial obstinacy; the local treatment in these not to be at the same time neglected.

Cold water, in its various modes of application, is of great importance, combined with other means. It aggravates eczema simplex, when arising from excess in secretion, as in the axilla or between the buttocks. Starch, either alone or mixed with oxide of zinc (three ounces of the latter to one drachm of the former) is an excellent application when the eczema arises from the friction of two cutaneous surfaces, or from excessive secretion. Oxyde of zinc (one drachm to one ounce of lard), sulphate or acetate of zinc, alum (one drachm to one pound of water), red or white precipitate (from six to twelve grains with two drachms of lard), are of good service in acute eczema, or in chronic, when there is but slight infiltration and the disease prevails only over a limited extent. When there is considerable infiltration in chronic eczema, *schmierseife* becomes the most preferable remedy. It is to be rubbed over once or twice a day, or more frequently, according to the degree of infiltration existing. If excoriations have been produced by its use, the surface should be washed and cold applications laid on until the next rubbing. This procedure must be continued as long as the moisture, itching, and infiltration continue, and until the frictions no longer give rise to heat and excoriations of the skin. The soap is then replaced by cold applications and the treatment terminated by the employment of tar.

In many chronic cases, with great infiltration, the soap does not suffice, and we must have recourse to one drachm of caustic potash dissolved in two drachms of water. A pencil of charpie is dipped in this and well rubbed into the diseased parts for some minutes. These are then washed, and cold applications constantly employed. One or two such cauterizations usually suffice, and when more are necessary, they should not be repeated oftener than once a week. It is a very painful procedure.

Tar is in its way just as useful a remedy as the soap, the time for its application being when the moisture and itching have ceased, and exfoliation has commenced, i. e., when eczema squamosum is present. It may be used either alone or mixed with equal parts of cod-liver oil, and should be applied by means of a brush once or twice a day, carefully avoiding washing the parts or allowing water to come into contact with them. As long as any redness or desquamation continues, the tar must be repeated. Sometimes, when the application of the tar has been premature, moisture and itching are observed at certain spots. Then the preliminary treatment has to be resorted to again. Some individuals cannot bear the tar at all, it giving rise to severe inflammatory action. In such cases, an ointment of acetate of lead or oxide of zinc should be substituted.

Cod-liver oil alone is a valuable external application, and sufficient to cure eczema when this has not lasted very long and the infiltration is not considerable. The employment of the oil alone renders the treatment very tedious, and is objectionable on account of the disagreeable smell and befouling the linen ; but it is an excellent adjuvatory to schmierseife and cold applications, as flannels soaked in the oil may be kept bound over the diseased parts during the night. Taken internally, the oil does not exert the slightest influence on eczema.—*Amer. Med. Monthly.*

THE *Lancet* has the following suggestions upon "Kleptomania," a form of insanity remarkably prevalent in this country :—

"It is known to those who have the best means of obtaining information, that this itch for appropriation exists to an alarming extent, even amongst what is known as good society. Thus the London shopkeeper who deals largely in 'portable property' of a very valuable kind has often to keep a private Argus constantly on the watch to gently suggest that the Comtesse de l'Arceny must really restore that bracelet which accidentally got into her ladyship's muff, or to inquire whether the bill shall be sent in for that bit of old lace slipped into her pocket in a fit of abstraction. Of course, if arrested, it would be proved that she had been in the habit of inflicting great grief on her family by the frequent recurrence of similar playful tricks—was, in fact, a kleptomaniac, and therefore to be let off; whereas when the inspector proves a dozen previous convictions against Mrs. William Sykes for shop-lifting, it is considered to show that she is an inccorrigibly bad lot, and deserves a proportionally increased punishment. Of course, the old argument would in the former case be urged, that the kleptomaniac is under an irresistible influence inducing the appropriation, with full knowledge of the risk and disgrace incurred if detected. This is simply untrue; for if the desire *were* uncontrollable and the dictates of reason disregarded, articles would be taken in full sight of the owners, and not, as is always the case, craftily purloined in the belief that the theft is unobserved. The ordinary defence as to the crime being evidently without motive is as much opposed to law as the previous argument is to logic. For English law does not trouble itself in cases of larceny with the motive, believing that when the offence is committed, the motive *va sans dire.* Thus Blackstone defines theft to be the felonious taking and carrying away of the personal goods of another, and drily remarks that the offence commenced 'at the time that the laws of *meum* and *tuum* were established, whenever that was.' And we doubt whether the most credulous of these exculpating latitudinarians would consider Bardolph as a kleptomaniac, though his crime was sufficiently motiveless when he 'stole a lute case, bore it twelve leagues, and sold it for three half-pence,' and was eventually hanged for only filching a 'pax of low price.'"

EFFECTS OF RELIGIOUS EXCITEMENT.—The annual report of the Irish Lunatic Asylum Inspectors states, that more cases of insanity occurred in Ulster in two months, during the late revival movement, than had taken place in the year. "Religious excitement" is assigned as the cause of insanity in 97 males and 86 females, but it is observable that, though religious excitement was the cause of the breaking down of the mind, the mania is not generally religious. The patient does not rave about religious subjects, but about matters totally different. The religious excitement, like any other violent epidemic excitement, caused the mind to give way in its weakest point, whatever that might have been. "Intemperance and irregularity of life" were the causes of the disease in 241 male and 82 females.—*Brit. Med. Jour.*

BLUNDERS IN PHARMACEUTICAL DIRECTIONS.—A prescription was written for a lady, and in the directions for taking the medicine it was stated that each dose was to be followed by a draught of "*species ad decoctum liquor.*" This latter puzzled the compounder, but, after profound reflection, he hit upon what he thought an agreeable and satisfactory translation, the carrying out of which might safely be left to the patient's liking. The medicine was accordingly sent bearing the following directions upon the label: "xxx drops to be taken 3 times a day, and followed by a *glass of hot punch.*" Unfortunately (or perhaps fortunately for the joke it affords) the patient happened to be a lady of strict temperance habits, and was quite shocked at the idea of sitting down to "a glass of hot punch," three times a day, of which course of dissipation she averred the Doctor had made no mention. A message was accordingly dispatched to the Doctor to inquire if a cup of good tea would not answer in place of the "punch." The physician was nonplussed at first, feeling doubtful of the sanity of his patient, but recollecting the character of her mind, contented himself with recommending that the *punch* should be dispensed with until he had seen his patient. Upon calling, his astonishment may be better imagined than described, when he found upon the label of the bottle the directions as given above. After quieting the anxiety of the lady, he forthwith waited upon the druggist, who confessed the difficulty under which he had labored, and submitted the copy he had made in his book, *the original recipe having been destroyed,* of what he thought the directions should have been. Judge of his amazement and amusement to find the following: "To be followed by a draught of 'spiritus ad decoct. liquor,'" or, as he had freely interpreted it, "hot punch." It was claimed on the part of the compounder that he was assisted in his translation and mystification by a son of Æsculapius who betimes loses his head at the shrine of Bacchus, and in this way accounts for the *spirited* translation produced. We would, however, add, *Hæ nugæ in seria ducant mala.—Brit. Am. Med. Jour.*

REGISTRAR-GENERAL'S REPORT.—The Registrar-General for England has issued his report for 1859—the 22d annual report. It tells us that the twenty-two years show that on the average there is one death in a year to every 45 persons living, one birth to every 30, one person married to every 61. Of the marriages at church in the year 1859 those by banns were to those by license as 5·296 to 1; and these may be taken as the proportions of the marriages of the higher and middle classes and of the artisan and other classes respectively. But of the 167,723 marriages, 31,513 were not celebrated at church. Of 100 men marrying, 14·10 were widowers; of 100 women marrying, 9·07 were widows. Of 100 men 6·20, and of 100 women 19·10 were minors. These proportions increase year by year; twenty years ago, in 1841, they were only 4·38 and 13·29; they are the greatest in Staffordshire, Durham, and some of the South Midland counties, where there is profitable work for young persons. Happily, there is also a constant increase in the proportions who are able to sign their names on the marriage register; in 1859 the proportion of men who signed by mark was only 26·7 in 100 marrying, and of women 37·6; in 1841 the proportions were 32·7 and 48·8, so that six per cent. more men and 11 per cent. more women now write their names. But in Staffordshire, even in 1859, the proportions that could not write were no less than 41·7 and 53·2, and in Lancashire 55 per cent. of the women who married signed only by mark. Of the births we learn that 44,751 children, 6·5 per cent. of the children born alive and registered, were born out of wedlock; but, as we lately mentioned, allowing for unregistered births, the real number is larger, and is probably from 8 to 9 per cent. of all the children born alive. To every 100 women living of the age of 15–45 there were 14·9 births in the year, and this proportion is slightly increasing; in 1841 it was only 13·4. The women who bore children in the year were 15·2 of every 100 women (of that age) living. Of the deaths of 1859 we find that the rate in the chief towns was 2·386 per cent., in the small towns and country districts 2·091; the former rate was below, the latter above the average. Of every 100 male children under five the mortality was 7·589 per cent., of 100 female children 6·665—rates higher than the average. At the close of 1859 the aggregate number of names on the register of births, deaths, and marriages, which commenced in 1837, was 28,065,538. —*British Medical Journ.*

The following advice to apothecaries by DR. BULLEYN, an "interesting and sagacious" London practitioner of the last century, commends itself, in some particulars, to the attention of the drug dispensers of our time:—

"THE APOTICARYE.—1. Must fyrst serve God, foresee the end, be clenly, pity the poore. 2. Must not be suborned for money to hurt mankynde. 3. His place of dwelling and shop to be clenly to please the sences withal. 4. His garden must be at hand, with plenty of herbes, seedes, and rootes. 5. To sow, set, plant, gather, preserve, and kepe them in due tyme. 6. To read Dioscorides, to know the natures of plants and herbes. 7. To invent medicines to choose by coloure, tast, odour, figure, &c. 8. To have his morters, stilles, pottes, filters, glasses, boxes, cleane and sweete. 9. To have charcoles at hand, to make decoctions, syrups, &c. 10. To kepe his cleane ware closse, and cast away the baggage. 11. To have two places in his shop—one most cleane for the phisik, and a baser place for the chirurgic stuff. 12. That he neither increase nor diminish the physician's bill (*i. e.* prescription), and kepe it for his own discharge. 13. That he neither buy nor sel rotten drugges.

14. That he peruse often his wares, that they corrupt not. 15. That he put not in *quid pro quo* (*i. e. use one ingredient in the place of another when dispensing a physician's prescription*) without advysement. 16. That he may open wel a vein for to helpe pleuresy. 17. That he meddle only in his vocation. 18. That he delyte to reede Nicolaus Myrepus, Valerius Cordus, Johannes Plucaton, the Lubik, &c. 19. That he do remember his office is only to be ye physician's cooke. 20. That he use true measure and weight. 21. To remember his end, and the judgment of God: and thus I do commend him to God, if he be not covetous or crafty, seeking his own lucre before other men's help, succour, and comforte."

The danger of drinking water from wells in cities, especially where intra-mural burying grounds exist, has frequently been proven. During the prevalence of cholera it was discovered that that fatal epidemic was propagated partly by the waters of springs and wells supplied by surface drainage. That many a country churchyard thus contaminates the surrounding wells, and gives origin to apparently causeless epidemics, there can be no doubt. The water that filters through these depositories is generally clear and sparkling from the excess of saline ingredients. Mr. LETHEBY, Health Officer of London, has lately examined thirty-four city pumps, and in every case the water was fouled with surface drainage. In speaking of the influence of the percolations from graveyards, he says .—

"Nor are the percolations from the graveyards of a city less injurious; experience has demonstrated that this also is a prolific source of disease. Sir James M'Grigor relates that when the British army was in Spain, about 20,000 soldiers were buried in a rather small space of ground; this was done in the course of two or three months, and soon the troops who drank the water from the wells of the neighborhood were attacked with dysentery and malignant fevers. The cause of the mischief was clearly traced to the hardly-recognisable impurity in the water from the shallow wells. Here, however, in the churchyards of this city there are the remains of ten times such a buried army undergoing decay; and in the whole of this metropolis, in a space of not more than 218 acres of soil, there were buried not long since as many as 50,000 dead in the year. In a generation of thirty years this would give us 1,500,000 of decomposing bodies in the surface soil of London; and through these the water percolates to find its way into the porus stratum which supplies the shallow wells. At best, the change of this corruption is but imperfect, and the presence of ammonia and saltpetre tells of the process of decay, and indicates the dangers which accompany it."

Bibliographical Notices and Reviews.

Medical Jurisprudence. By ALFRED SWAINE TAYLOR, M.D., F.R.S.; Fellow of the Royal College of Physicians; Hon. M.D. University St. Andrews; Member of the Royal College of Surgeons, and Professor of Medical Jurisprudence and Chemistry in Guy's Hospital. Fifth American from the Seventh and Revised London edition. Edited with additions by Edward Hartshorne, M.D., one of the Surgeons of the Pennsylvania Hospital. Philadelphia: Blanchard & Lea, pp. 714. 1861. For sale in our city.

In this edition (seventh) the author has not found it necessary to make any extensive changes—some articles have been abridged in order to make room for more recent information, but the general plan of the work has been retained.

Since the first appearance of the work (1844) there have been issued from the press about sixteen thousand copies. This is pretty good evidence that the Medical and Legal professions, for whose assistance the work has been especially intended, appreciate it.

It might not be out of place here to notice also that the Royal College of Physicians and the Society of Arts, have awarded to the author in Jan., 1860, the quinquennial prize of one hundred pounds, and a silver vase of like value.

We have no room for an elaborate review of this work. Nor is it necessary. The work has been before the profession sufficiently long to be appreciated. The recent additions are all, therefore, that require attention.

The first Chapter, among other things, attempts a *definition* of *Poison.* This, in the present state of our knowledge, might as well have been omitted. All the writers that we have consulted have a singular knack of stumbling just here. Perhaps, stumbling is inseperably connected with the effort. Certainly so with the attempt to give a definition that is true both medically and legally, and that is the desideratum.

In a medical sense poison relates more to *quantity* than quality; in a *legal* sense to the *motive* connected with its administration.

Poison is commonly defined to be a substance which when administered *in small quantities* is capable of acting deleteriously on the body. This would exclude numerous substances—such as nitre, antimony, the salts of copper, lead, zinc—that only act deleteriously when taken in large quantities. This definition is, therefore, untenable. It would also limit the act of poisoning to the administration of such substances as arsenic, strichnia, prussic acid, nicotina, chloroform. Now, inasmuch as *deleterious* consequences must always be the principal thing, the 'Hamlet,' of a definition of poison, does it not follow that any substance may be properly regarded as a poison, if introduced into the organism in sufficient quantity to produce disease or death?

Admitted to be true scientifically, it is easy, however, to discover that such a definition would not meet the wants of legal medicine. Here the *motive* must figure most prominently. The physician in administering arsenic, the preparations of mercury, copper or iron, may destroy the life of his patient; or he may do the same thing just as certainly by ordering inopportunely too much bread or meat, still there would be no criminality in either case, no poisoning in either case—simply ignorance. If held to accountability for such disastrous results, the physician should answer, not to a charge of poisoning, but to one of professional incompetency.

A medico-legal definition of poison, it may now be presumed, should involve two questions: Has the substance been administered with criminal intentions? Has it produced disease or death? Answered in the affirmative, these questions make out a charge of poisoning.

Influence of Habit on Poisons.—To habit we often have to ascribe much of the immunity that often seems to result to those who have accustomed themselves to large doses of drugs. Opium and arsenic eaters become habituated, according to accounts, to these substances, in quantities that seem incredible. Now, while we know that children drugged from infancy with opium, will bear very large doses without apparently suffering much, we are not disposed to believe the extravagant accounts given of the corrosive sublimate eaters of Turkey, or of the opium eaters of China. They need confirmation.

Idiosyncracy differs from habit in not diminishing the effect of a poison. Any particular state of the body, it is sometimes found is a safeguard against these powerful agents. Christison gives an instance in which a gentleman unaccustomed to opium took nearly an ounce of good laudanum without any effect. Substances generally reputed harmless, or used as food, affect some persons like poisons. This is the case with pork, mushrooms, and certain kinds of shell-fish.

Our author adopts the following as a classification of Poisons: *Irritants* and *Neurotics.* Irritants are those that impress the surfaces in a way that gives rise to speedy violent vomiting, purging, pain in the stomach and bowels, etc. Neurotics act upon the nervous system, and their operation is chiefly confined to the brain and spinal marrow. The symptoms here are headache, numbness, paralysis, stupor, convulsions.

Of course, no well defined boundary exists between these two classes of poisons. Arsenic, that belongs to the former class, often produces paralysis, stupor, convulsions; on the other hand, how often is it the case that an overdose of opium produces pain and vomiting?

Disputed Paternity.—We find discussed under this head some questions that seem very difficult of solution. English law, it is said, does not pretend to determine who begot a child when it has been born during wedlock, and from circumstances might be the child either of the husband or an adulterer, but medical jurists have recommended that family likenesses should be looked to on these occasions, not merely a likeness in feature and figure, but in gesture and other personal peculiarities, which might have characterized the alledged parent. In confirmation a case is given in which a witness swore, in regard to a child whose legitimacy was concerned, that he bore so strong a likeness to the alledged adulterer, that he should have known him among five hundred children.

We give the following extract in regard to the Douglas Peerage case:

> "The proceedings in the *Douglas Peerage* case also show that evidence of this kind is occasionally of some importance. This peerage was claimed by Archibald Douglas—the survivor of two brothers after the death of the alleged parents, Sir John and Lady Douglas. The claim was disputed, on the ground that the appelant and his deseased brother were suppositious children. Evidence for and against the legitimacy of the claimant had been collected from every quarter, and after it had been

most minutely sifted and criticized, the case came on for judgment in the Court of Sessions in Scotland on the 7th of July, 1767. So important was the cause deemed, that the fifteen judges took eight days to deliver their opinions. The result was that seven of the judges voted in favor of the identity or legitimacy of Mr. Stewart, and seven against it; the Lord President, who had the casting vote, agreed with the latter, by which Douglas, *alias* Stewart, was cast on the world without either name or estate, thus furnishing one among numerous instances that judges as well as doctors can differ with precisely the same facts before them. An appeal from this decision was taken to the House of Lords, by which the judgment of the Court of Sessions was reversed in 1769, and Archibald Stewart, or Douglas, declared to be the undoubted son of Lady Jane, the sister of the late duke. Much stress was laid, in favor of the legitimacy of the children, on the fact that they closely resembled—the one Sir John, and the other Lady Douglas. The resemblance was said to be general; it was evident in their features, gestures, and habits. Lord Mansfield, in delivering judgment, made the following remarks, which comprise all that can be said on the subject. 'I have always considered likeness as an argument of a child being the son of a parent, and the rather as the distinction between individuals in the human species is more discernable than between other animals. A man may survey ten thousand people before he sees two faces exactly alike; and in an army of a hundred thousand men, every man may be known from another. If there should be a likeness of feature, there may be a difference in the voice, gesture, or other characters; whereas a family likeness runs generally through all of these: for in everything there is a resemblance, as of feature, voice attitude, and action.' This kind of evidence has been strongly objected to from its uncertainty; and I am informed, on good authority, that it was in this instance much disputed whether one of the children did resemble Lady Douglas. It seems to have been generally admitted that the other child resembled Sir John Douglas. From this account, it will be seen that evidence from family-likeness, is not strictly medico-legal—it can be furnished only by friends and relatives who have known the parties well, and are competent to speak of the facts from personal acquaintance with them. It will also be apparent that the affirmative evidence in such cases will be stronger than that which is negative; for it could hardly be inferred that a person was illegitimate, because he did not resemble his parent."

It is unnecessary for us to endorse this work. The number of editions through which it has passed at home imports very fully the estimate placed upon it by our transatlantic brethren. Although the whole subject of Medical Jurisprudence is considered in a space less than 800 pages, still we have a very available work, lacking in no essential particular. Indeed, it is *multum in parvo* so far as *matter* is concerned, and withal fully up to the times.

The American publishers, too, have laid the profession under obligations for the handsome and durable dress of the work.

Physician's Visiting List, for 1862. Philadelphia: Lindsay & Blackiston.

These little books have become almost a necessity with those who have experience in their use. The one before us is prepared with care, and its arrangement will be found very convenient. We have an *Almanac, Table of Signs, Marshall Hall's ready method in Asphyxia, Poisons and their Antidotes, Table for Calculating the period of Utero-Gestation ; blank leaves for visiting list, for memoranda, addresses of patients*, etc., etc.

Editorial and Miscellaneous.

New Arrangement.—The volume of this work, and as a consequence the fiscal year, commenced heretofore on the 1st of September. For some time we have been desirous of making a change. This has now been done, and hereafter the volume will commence on the 1st of January, a time of the year more suitable to all parties.

It will be noticed, by the cover, that the work in the future will be conducted by the Faculty of Starling Medical College. The Faculty will constitute an Editorial Corps, while the business department will be managed exclusively by Prof. T. G. Wormley.

These changes, we hope, will be satisfactory to our readers. They will certainly secure a greater amount of labor for the great purpose in view—that of making the work the faithful expositor of Current Medical Literature.

Hereafter each member of the Faculty will, as far as possible, contribute to the Review Department. This will result in careful and exhaustive reviews of all new books.

To Subscribers.—To Prof. T. G. Wormley has been transferred the Business Department of this work. He is now the *Publisher,* and authorized to receive from subscribers all arrearages. Business communications, therefore, will hereafter be addressed to Prof. T. G. Wormley, Columbus, O.

Every thing designed for the columns of the Journal, such as Original Communications, Reports of Societies, etc., may be addressed to Prof. Jno. Dawson, Columbus, O.

Books Received.—Notes on the Surgery of the Crimean War, by Geo. H. B. Macleod, M.D., F.R.C.S., Surgeon to the General Hospital before Sebastopol. Philadelphia: J. B. Lippincott & Co. 1861.

Principles and Practice of Obstetrics, by Gunning S. Bedford, A.M., M.D., Prof. of Obstetrics and Diseases of Women and Children in the University of New York. Sam'l S. and Wm. Wood, 389 Broadway. 1862.

Lectures on Diseases of Women, by Charles West, M.D., Fellow of the Royal College of Physicians, etc., etc. Second American, from the Second London Edition. Philadelphia: Blanchard & Lea. 1861.

The above books will be reviewed in our March No. They are all works of merit.

Our Exchanges.—We have to regret the non-appearance of quite a large proportion of our "Exchanges." Those from the slaveholding States have, as we understand, been suspended. Some, too, belonging to the free States within the last six months have ceased to make their appearance, because of the political troubles of the country.

Qualifications of Army Surgeons.—The Report just made to the Secretary of War, at Washington, discloses fearful incompetency of Army Surgeons. Not having the medical mind occupied of late in this country with Military Surgery, or the Diseases of Camp life, was it to be expected that a large army could at once be supplied with medical men, in all respects, qualified for such arduous and important duties? The getting up of surgeons, like the getting up of soldiers, is a work not accomplished in a few weeks, or a few months. The process requires time, involves thought, and a return to and a re-communion with first principles.

The field, to most of our Surgeons, was as new even in theory as in practice. How few the number in this country who have had their minds on medical topography, the accidents of the battle-field, the means of protecting against "*crowd*" poisons!

While, then, we should not fix up too high a standard of qualifications, no one, however, can fail to regard with the deepest solicitude the amount of medical capacity invested in favor of the soldier. In view, now, of such a state of things, what better can be done than that Surgeons at once review their stock of Anatomy—a branch of learning without which there can be neither medicine nor surgery? The old adage, that "*a good Anatomist can operate any way*," is as true now as when first uttered. Something else is also true just here: "*A poor Anatomist* can operate NO way."

But anatomical information is not all. The *debris* that falls from the human body, and which, in times of peace, seldom receives any attention, become, when large numbers of men are collected together in tents, prisons, or hospitals, a source of trouble that can scarcely be overestimated. Ninety per cent. of the mortality of armies is due to this cause. Unaccustomed to the common agency of such a power for evil, few of those having charge of the corps d'armées of the country are prepared to estimate the dangers with which they are surrounded. Here works on Physiology, Hygiene, and the history of Army diseases will come into play. How many of our young Surgeons are posted up on the amount of poisonous matter eliminated by the excretory organs every twenty-four hours? How many prepared for the diseases generated by such matters, from accumulation, on the shirts and pantaloons of the soldiers? How many are prepared to guard against the sickness from simply a change of habit? Upon such subjects ancient literature is rich. Sir John Pringle, who wrote more than a century since, may be mentioned as one of the authors that will pay perusal. His style is charming, his details elaborate, his deductions philosophical. Notes on the Surgery of the Crimean War, by G. H. B. Macleod, M.D., F.R.C.S., is perhaps the most modern work. It abounds in medical as well as surgical information, and is a very clever production.

We hope these suggestions may be received in the spirit by which they have been dictated. The summary call of the country may be plead for awhile in extenuation of uncommon sickness and mortality; but the people expect the medical capacity to rise and be equal to the emergencies. The country, every where, is full of books, full of dissecting material. "Where there is a will, there is a way."

THE March No. of the Journal will, we think, appear promptly at the time due. The delay of this number was unavoidable.

Total Inversion of the Uterus, with an adherent Placenta following a Natural Labor—Death of the Patient. By ORVILLE N. ELLIS, M.D., Dresden, O.

On Monday, May 6th, about one o'clock P. M., was called to see Mrs. R. G——, æt. 26, a woman of sanguineo-lymphatic temperament, in her third labor. Made an examination per vagina; found the os uteri dilated to about the size of a quarter dollar. After a few moments conversation with the patient, and some charges to the attendants, I left her room, and did not see her again until four o'clock of the same afternoon. During this interval the labor had progressed rather slowly, owing to the rigidity of the parts, and, knowing her previous history, did not think of any thing else than a tedious labor. The pains, however, grew more marked and distinct in the course of half an hour afterward; and at about half past five o'clock, four and a half hours from my first visit, a healthy female child was born. The woman was not fatigued, was in good spirits, and conversed freely with her attendants. Soon after the birth of the child, not to exceed a quarter of an hour, she began to have strong expulsive pains accompanied with some hemorrhage, though not to exceed the usual quantity. They continued for a short time, appearing at longer intervals, and finally ceased altogether. I now made a thorough examination of the interior of the uterus; found its walls patulous, the placenta at the fundus, very large in size, and very hard to the touch. The usual "ready remedies," friction over the utero-abdominal surface, cold applications, etc., were used, but with no effect; and from the very alarming nervous prostration, and request of the patient, I sent for counsel.

Drs. Cass and Lemert came promptly to my assistance. Teaspoonful doses of wine of ergot were administered at intervals of ten minutes, sufficient to quicken the contractions, with friction over the abdomen. Strong contractions now came on. The uterus could be distinctly felt as a round, hardened mass; but at the fundus little or no contractions could be felt during a pain. But a short time had elapsed from the administration of the third dose of ergot, and whilst my hand was on the abdomen, I felt the uterus contract suddenly, and as suddenly glide from under my hand. Upon examination, the cavity of the vagina was found filled, and a substance supposed by us all to be the placenta. Following this, alarming prostration seized the patient, "feeling," as she described it, "as if she was sinking through the bed." Stimulants were now promptly administered, but with little or no effect. Upon examination, a mass resembling a large piece of *boiled liver* in color, but very hard in consistency, was found protruding entirely from the vagina. The umbilical cord was attached to the centre of this carnaceous mass, being very large and soft. As the parts relaxed the tumor increased in size, but no membranes could be found upon or about it. There could be no doubt now as to the case being one of complete inversion, as the broad and round ligaments could be felt just behind the protruding tumor. With great difficulty the placental mass was separated from the uterus, which was immediately replaced, contracting, upon itself, to the natural size, with the removal of the hand. All our efforts were now directed to the sinking condition of the patient, but she failed to rally, and died at 9 o'clock of the same evening.

There are several particulars in the history of the above case which it may not be out of place to mention here. In her first labor she was attended by an "Eclectic." Alarming hemorrhage followed delivery, and the patient was saved only by the well-timed exertions of an old physician of this place. At her second labor, alarming symptoms, similar to those at her third and last labor, appeared, but were terminated by a speedy expulsion of the placenta, leaving her, however, in a very critical state for a fortnight afterward. This was about two years ago, since which time I have been the regular family physician. During her last pregnancy nothing known to me happened that would not warrant in predicting a favorable termination.

There are but few cases on record of complete inversion of the uterus, though the lesion is mentioned by all writers on Obstetrics. Nearly all authors agree that an inversion can not happen unless force be applied at the funis. Dewees cautions young obstetricians particularly not to pull at the cord, as also does Ramsbotham. The last named author, in his admirable work, records a case which happened under his own observation, at the Royal Maternity Hospital. When seen by him the patient was in a dying condition, and examination revealed total and complete inversion. The attendant assured him that no force whatever had been applied at the cord, and says, although "inversion may be looked upon as a consequence of improper treatment, it may certainly occur without force being applied to the funis."

Of such a description was the above case. At no time was any force applied at the cord, yet there was complete inversion of the uterus, followed by a speedy dissolution. The amount of hemorrhage was not sufficient to effect such a result. In fact the patient could have lost three times the amount of blood and yet lived but for inversion. Now as to the *cause,* older and wiser heads than mine must settle that; still, I will take the liberty of giving my own opinion.

Bearing in mind the unusual size of the placenta, and the inertia of the uterus consequent on the delivery of the child, I can only account for the inversion by the *extreme bearing down* of the patient, attributable in part, no doubt, to the remedy administered—ergot. If gravitation has effect—and who will say that it has not?—why not act mechanically to drag or pull down from its position an uterus whose walls have lost their muscular contractility? After the birth of the child there never was, in my opinion, any regular contractions of the uterine walls.

My belief is that, in all cases where there is an adherent placenta, the whole contractile powers of the uterus are expended at that one point. From this cause the energies of the uterus become rapidly lost, and hemorrhage, or some equally dangerous sequent, follows the failure to throw off the secundines. Equally fatal to the patient is this condition, rendering it, to the physician as in inversion, barely possible to avert that fatal catastrophe dreaded by us all—death.

Close of the Volume.—The present number closes volume the nineteenth of our Journal. We commenced this year under circumstances of unusual prosperity—many new subscribers were added to our list, and our future seemed bright and encouraging beyond any former period. But the calamities which have fallen so heavily on the country at large, have also affected us most seriously. Many of our subscribers have been unceremoniously cut off by the discontinuance of the mails south of us, but even where this is not the case, many more of them have quit their homes and gone into camp, where they will probably remain until the war is over, while those who continue at their posts have their minds so pre-occupied by the stirring events which are taking place around them, as to render them almost wholly indifferent to professional reading—such pursuit being far too tame amid the great excitement by which they are surrounded, and in which they so naturally participate. This is one of the necessary evils of the evil times upon which we have fallen, yet it has very materially curtailed our receipts, and otherwise dampened our ardor.

The condition of our State and country—the lack of interest which our readers feel, and which we ourselves feel in matters medical just at this time, has determined us to hold on for the present and watch the progress of events. Our next number may not therefore appear at the usual time. We do not wish to be misunderstood; *we are not under the necessity, nor do we mean to suspend the* publication of the St. Louis Medical and Surgical Journal, but we only mean to remain quiet for a while—it may only be a very short time—until the political cauldron shall have ceased to boil so furiously as at the present, and public affairs in this region have assumed a definite shape, when in common with our readers we will doubtless feel our accustomed interest in medical affairs, which is not the case at present. We take no leave, therefore, of our readers, nor of our cotemporaries, for, Providence permitting, they shall both hear from us again.—*St. Louis Medical and Surgical Journal.*

Proposed Corps of Medical Cadets.—The following circular from the Surgeon-General U. S. A., will explain itself. We insert it for the benefit of our junior readers—under-graduates in medicine. If they wish to undergo an apprenticeship admirably adapted to familiarize them with the practical duties of their profession, here is an opportunity. In our opinion, such a service would prove of far more value than a course of lectures, and might at this juncture be well substituted for the class room.

"SURGEON-GENERAL'S OFFICE, Aug. 6, 1861.

"The following act of Congress in relation to the Corps of Medical Cadets is published for the information of all concerned:

"'SEC. 7. *And be it further enacted,* That there be added to the Medical Staff of the Army a Corps of Medical Cadets, whose duty it shall be to act as dressers in the general hospitals and as ambulance attendants in the field, under the direction and control of the medical officers alone. They shall have the same rank and pay as the Military Cadets at West Point. Their number shall be regulated by the exigencies of service, at no time to exceed fifty. It shall be composed of young men of liberal education, students of medicine, between the ages of eighteen and twenty-three, who have been reading medicine for two years and have attended at least one course of lectures in a medical college. They shall enlist for one year, and be subject to the rules and articles of War. On the fifteenth day of the last month of their service, the near approach of their discharge shall be reported to the Surgeon-General, in order, if desired, that they may be relieved by another detail of applicants.'

"Application must be made to the Surgeon-General for admission into the corps, in conformity with the above act, stating the date and place of birth, place of residence, period of medical studies, and enclosing the certificate of the dean of the college (or, when not attainable, other satisfactory evidence of the fact), that the applicant had attended one full course in a medical college. Those applications must also be accompanied with testimonials of the good moral character and sound physical condition of the candidate.

"When an applicant is favorably considered, the candidate will receive a letter authorizing him to appear before an Army Board of Medical Examiners, who will make a special report in such case. From among those approved by the Board, the Surgeon-General will select such a number as the service may require.

"As the services of this class of medical and surgical assistants are at once required, applications (to be successful) should be promptly made to the Surgeon-General, who will direct the candidate to appear before one of the Army Medical Boards now in session in Washington and the city of New York.

"R. S. Wood, Acting Surgical-Gen."

MAL-PRACTICE AND DECEPTION OF A QUACK.—The American Medical Times of New York, says: "A case was recently tried in an interior town, in which the defendant, a quack, was charged with mal-practice, in the treatment of disease of the uterus. It was alleged that he was accustomed to diagnose a tumor of the uterus in every case, and that on the first examination he would contrive to introduce, unobserved, a piece of raw meat. He then began to make local applications, and in due time, after much offensive discharge, and no little discomfort, the offending substance would escape, to the great relief of the sufferer. In this case the patient was struck with the resemblance of the tumor to a piece of meat, and took it to a physician, who submitted it to a microscopical examination, when its nature was discovered. The result of the trial was a verdict of $1,000 against the defendant."

MEDICAL HOSPITAL AT RICHMOND, VA.—The Med. and Surg. Reporter says: This hospital is just now completed at an expense of $20,000, and is open for the reception of patients. It is provided with every convenience necessary for the comfort and successful treatment of the sick, who are all under the immediate care of the Professors of the Medical College. Attending Surgeons, Drs. Gibson, Peticolas, and Wellford. Attending Physicians, Drs. Tucker, Conway, and McCaw. Resident Physician, Dr. Isaiah H. White.

DUPUYTREN ON SPURIOUS PREGNANCY.—The Berkshire Medical Journal copies the following from the Med. News and Lib.: "Prof. Simpson, in lecturing on spurious pregnancy, tells the following good story of Dupuytren. 'Such cases are, happily, extremely rare; but you do meet with them occasionally, and not in patients within the walls of a lunatic asylum only. It is told that a lady once came to Dupuytren, to ask what was to be done in her case, as she had now been in a family way for fourteen years—and the great Parisian surgeon gave it as his opinion, that as the boy must be tolerably well grown by that time, the best thing the lady could do was to swallow a tutor immediately, that his education might not be neglected.' "

New Rhinoplastic Operation.—Dr. E. S. Cooper states (*San Francisco Medical Press*, July, 1861), that he has "had several cases, recently, in which we practiced, with entire success, the method of introducing thin arched plates of virgin silver into the soft tissues, to hold them up, when the bones of the nose had been lost. Thus far, they bid fair to succeed admirably, as there is every prospect that these plates will become encysted, in most cases, though time enough has not yet been given to test the method, in this respect. There is one advantage this plan has over that of transplantation, viz: that it entails no additional deformity, even should it fail entirely in relieving the one for which it is tried, and we believe that, in all cases, it may be rendered beneficial, where bony structure alone has been lost. We have a case under treatment now, in which a considerable part of the ossa nasi, the vomer, and a fragment of the superior maxilla were lost—so much so, that the major part of the tissues, representing the nose, rested entirely below the surrounding surface. A more disagreeable deformity of that organ could not possibly occur.

"The operation, in this case, consisted in raising the integument, which was formerly the covering of the nose, upon the blades of a small pair of forceps, dividing them, in a median line, for nearly an inch. After which, the scalpel was passed on either side, so as to separate them into two plates, to the same extent in width as the incision was long. The knife was passed under the skin for nearly two inches, on either side, for the purpose of increasing the capacity of its stretching qualities. Two arched plates of silver, shaped like the ossa nasi, three lines wide, were introduced, and the integuments brought over them, so that the nose at once assumed the natural shape of one pretty well formed, which it retains still, six weeks after the operation. This, and other cases, shall be published in detail, as soon as their ultimatum is known.

"It is quite certain that this operation will almost always be of benefit, when the bones of the nose are lost and the soft parts depressed, because, should we be compelled to remove the plates, after three or four months, the parts will become so much consolidated as to retain, to a great extent, their new position. This has occurred in one case already.

"The deposit and hardening of tissues around the metal were sufficient to retain the parts elevated after its removal, and thereby to remove almost entirely the deformity. The subject shall be discussed fully, as experience enables us to speak practically of it in all its bearings. The method of operating will be described more fully when the cases are given *in extenso.*"

PIROGOFF'S OPERATION.—As this operation at the ankle-joint has been recommended in an order from the Medical Director of the army, in preference to Chopart's or to amputation above the ankle, it may be interesting to our readers to see a description of that operation, as given by the author himself. He says:

"I commence my incision close in front of the outer malleolus, carry it vertically downwards to the sole of the foot, then transversely across the sole, and lastly obliquely upwards to the inner malleolus, where I terminate it a couple of lines anterior to the malleolus. Thus all the soft parts are divided at once quite down to the os calcis. I now connect the outer and inner extremity of this first incision by a second semi-lunar incision, the convexity of which looks forward, carried a few lines anterior to the tibio-tarsal articulation. I cut through all the soft parts at once down to the bones, and then proceed to open the joint from the front, cutting through the lateral ligaments, and thus exarticulate the head of the astragalus. I now place a small, narrow amputation saw obliquely upon the os calcis, behind the astragalus, exactly upon the sustentaculum tali, and saw through the os calcis, so that the saw passes into the first incision through the soft parts. Saw carefully, or the anterior surface of the tendo achilles, which is only covered by a layer of fat, and a thin fibrous sheath, might be injured. I separate the short anterior flap from the two malleoli, and saw through them at the same time close to their base. I turn this flap forwards, and bring the cut surface of the os calcis in opposition with the articular surface of the tibia. If the latter be diseased, it is sometimes necessary also to saw off from it a thin slice with the malleoli."

He thus sums up its absolute and relative merits:

"1. The tendo achillis is not divided, and so we avoid all the disadvantages connected with its injury. 2. It also follows that the base of the posterior flap is not thinner than its apex, while the skin on the base of the flap remains ununited with the fibrous sheath of the tendo achillis. 3. The posterior flap is cap-like, as in Syme's method, and its form is therefore less favorable to a collection of pus. 4. The leg, after my operation, appears an inch and a half (sometimes even more) longer than in the three other operations (Syme, Baudens, Roux), because the remnant of the os calcis left in the flap, as it unites with the inferior extremities of the tibia and fibula, lengthens them by an inch and a half; and 5. Serves the patient as the point of support."—*Reporter.*

PENALTY OF OVERWORK.—Overwork, and its penalty, worn out brain and early death, are common enough amongst ourselves, but perhaps there is no better example of the beginning, middle and end of such a case than is afforded by the late Augustus Welby Pugin, a celebrated English architect, and narrated in Mr. Ferry's very interesting "Recollections of Pugin." He was "delicate as an infant;" when at school "he showed remarkable aptitude for acquiring knowledge," and whether in "Greek, Latin, mathematics, or any other branch of education, would learn in twenty-four hours what it took other boys many weeks to acquire;" he was quick, fluent in speech, voluble, dogmatic, and vehement in manner; he hated children's society, and loved that of his elders. From his precocity of talent, he was largely employed as an artist when a mere stripling, and was designing George the Fourth's furniture at Windsor when sixteen. He entered into business, set up an establishment of artist workmen, got into pecuniary difficulties, and was arrested when eighteen. He married; and was husband, father, and widower before he had completed his twentieth year. Then followed twenty years of the most intense excitement and exhausting labor; rapid journeys; a second and third marriage, and two, at least, most bitter disappointments in love between them; a change of religion, and a perfect tempest of controversial pamphleteering. Habits of life, of rapid and restless locomotion, and of severe labor when at home; rising at six;

two hours hard work before breakfast, "which seldom lasted more than *seven minutes;*" hard work again till dinner, "when his fare was of the simplest description, without wine or malt liquor, and this meal generally lasted *a quarter of an hour;*" after dinner more work till bed time; "when he returned from town he always wrote letters in the railway carriage." What wonder that at the age of forty he became irritable and nervous, and quarreled with his oldest friends; or, as he described himself, "thin, trembling, hollow-eyed, changed, and yet working tremenduously at times." Soon after, meeting his Medical attendant at Ramsgate, where he lived, he told him a story of the foundering of five merchant ships, which was sheer hallucination; this was followed speedily by complete mental decay and early death, just at the age when experience begins to ripen, and a man's early work ought to bear fruit for himself, his family, and the world. Pugin is a man whose influence is seen and felt in every street and every house, in the substitution of the bold, picturesque, Gothic outlines, and harmoniously colored materials of modern buildings, for the monotonous pseudo-classic of the last generation; in the graceful forms of domestic furniture, and the truer and more natural school of art. If he had worked less, taken more time to his meals, and quieted his brain with tobacco or wine, so as not to live so fast, he might, perhaps, have been living now.—*London Medical Times.*

Cases in Military Surgery—Gunshot Wounds of Pelvis, Thorax, Knee, Trachea, Thigh, and Arm. By William O'Meagher, M.D., Surgeon 37th Regiment, N. Y. V.

Gunshot Wound through the Pelvis, Intestines, and Anterior Abdominal Wall.—On the night of Tuesday, Aug. 27th, while a large portion of the regiment was on picket duty at Bailey's Cross Roads, at that time one of the outposts of the army on this side, the reserve corps, stationed in front of a house adjacent to the road, resting themselves until their turn should come to relieve the others, were suddenly startled to their feet by the report of some shots fired at a little distance in the rear. A sudden rush was made for the muskets lying on the ground before the men, and, in the confusion incident to the sudden movement, one piece went off accidentally. The next moment I saw one of the men, who happened to sit in advance of the main body against the railing in front, and a little behind another officer and myself, suddenly start up and then tumble over writhing in agony. He rose again, tottered a few paces, and again fell over.

In consequence of our immediate proximity to the enemy, then only a quarter of a mile distant, I was unable to use a light during the necessary examination; besides, he was with difficulty kept from rolling about, until his agony was somewhat relieved by a grain of morphia. Meantime, I was engaged in exploring the wound, which was plainly indicated by abundant hæmorrhage and by the patient himself pressing his hands tightly on the lower portion of his back. The bullet had passed through the upper part of the left sacro-iliac symphysis, through the intestines, escaping anteriorly in the right groin, and finally, through the clothing, being then lost. Vomiting soon set in, and during the consequent exertions, a knuckle of small intestines, wounded, protruded through the anterior opening, but was easily reduced when the vomiting ceased, and he was able to swallow some stimulants and another opiate. Compresses of lint and a broad bandage were then applied, the hæmorrhage ceased, and pulsations in the radial and femoral arteries indicated commencing reaction. A door, taken from the hinges, covered with straw and a blanket, served for a litter, on which, supported by muskets and relays of six men at a time, he was carried a distance of about three miles until we reached the field ambulance, which, owing to the road being obstructedly barricaded, could not approach nearer.

He was thence carried to the Washington Infirmary on E street, where he died in about fifteen minutes afterwards, and about ten hours after the accident. During the journey he was somewhat comfortable, notwithstanding the roughness of the road, and seemed to rally pretty well, sufficiently to converse with the chaplain. Vomiting had not returned, and he was thus able to take stimulants combined at intervals with anodynes. Though very anxious to see the post-mortem examination, which I presumed would follow, I was prevented calling at the hospital owing to more engrossing duties. I called there subsequently, however, and asked the surgeon in charge, by note, to furnish me with the record, but I received neither a reply nor the expected information.

Gunshot Wound of Thorax and Lungs.—Private Cooke, of the 2d Michigan, while on picket duty near the Cross Roads, received from the enemy's picket a gunshot wound through the lungs, and when discovered by his comrades, who hastened to the spot, was found faint from profuse hæmorrhage, and lying on the wounded side. By them he was conveyed in a blanket to the main body stationed at the Cross Roads, the distance being about a mile, and on their arrival I saw him immediately. On examination, his clothes behind were found saturated with blood, while several large clots were removed from the immediate vicinity of the wound. As he was extremely prostrated, some stimulants were gradually administered until reaction commenced, and, in the mean time, I was searching for the exit of the bullet, which had entered the left side posteriorly, fracturing the tenth rib and making quite a large, irregular, wound. On introducing my finger for about two inches for the purpose of exploring and removing foreign substances, I felt the lung tissue, and found the wound itself partially filled with coagula and extending towards the opposite side in a transverse direction; emphysema appeared to some extent in the vicinity. I did not attempt a further exploration, especially as the wound, as far as I could discover, appeared free from foreign substances and partially closed. Shredded lint was then applied to the wound, and the patient gently turned over on the wounded side. On searching for the exit of the ball, the only indication of its presence was a patch of emphysema on the opposite side, somewhat higher up than the aperture, but the ball itself could not be felt, so I resolved to wait awhile in order to allow the patient to recover somewhat, hoping that, in the mean time, the respiratory efforts, increased by a pretty tight bandage, would force the ball outwards and thus render it palpable. Accordingly, in about four hours, he began to experience severe pain in this part, and on removing the bandage, at the same time directing him to take in a full breath, which he did with ease and evident relief, I was exceedingly gratified to find the ball presenting itself in the sixth intercostal space. On cutting down, I found it firmly imbedded in the costal pleura, and after a little delay, occasioned by a desire not to make a large opening, removed it with a common forceps, and immediately closed the wound with interrupted sutures. The bandage was again applied, and a full anodyne administered, after which he slept well for two hours and felt very much relieved. The missile, contrary to my first anticipations, turned out to be a small triangular shaped rifle bullet, irregular and rough at the edges, as if it were so designed to produce greater mischief. He continued very comfortable for two days, taking light nourishment and appearing quite cheerful and intelligent, occasionally only being attacked with dyspnœa, which, however, was never sufficient to cause any apprehension. Obedient to directions, he lay perfectly still, without talking, except in answer to a necessary question as to his condition. His bed was a canvas field-stretcher, with poles inserted into the folded canvas, which was also attached to the end pieces by buttons and cords. The iron framework at the ends raised it from the ground sufficiently to afford a safe, easy, and efficacious means of transportation, far superior, in my opinion, to any other thus far presented, and certainly better than field ambulances over rough roads. On this he was conveyed, the third day, a distance of perhaps ten miles, to the general hospital in Alexandria, where he died on the fifth day. I am indebted to Dr. H. Laurence Sheldon, the surgeon in charge, for the following record of the autopsy:

"Left side of chest filled with bloody serum; lung compressed, and a space between anterior parietes and surface of lung filled with air. Lymph covered the visceral and parietal pleuræ, and clots of blood were on the most dependent portion of the cavity. The ball struck the tenth rib, fracturing it three inches from its articulation with vertebræ, passed through the lower lobe of left lung, where there was intense inflammation in its track, with numerous spiculæ of bone carried two inches into substance of lung from the fractured rib, thence through body of tenth vertebra, through diaphragm and upper surface of liver, a distance of two inches; again through diaphragm, and was removed externally between sixth and seventh ribs. There was a patch of pneumonia on the right lower lobe. Half a gallon of serum and blood was taken from both pleural cavities."

I should have mentioned as rather remarkable, that, for three days, though he had considerable dyspnœ, and pain referred to in both places, he had neither cough nor expectoration until the fourth day, leading some to suppose that both lungs were not seriously wounded, as I had at first reported, the ball rather making a circuit *outside* the lung. But I think it almost impossible that the right lower lobe could escape when the ball passed *twice* through the diaphragm and upper surface of the liver, being finally removed from the *sixth* intercostal space; besides, "there was a patch of pneumonia on the right lower lobe, and half a gallon of serum taken from *both* pleural cavities."

Bayonet Wound of Trachea—Emphysema.—Private Betson accidentally received a thrust of a bayonet in the neck opening into the larynx and producing considerable emphysema, tickling cough, and bloody expectoration. He recovered rapidly, however, without a bad symptom, some slight aphonia alone remaining for a short time.

Bayonet Wound of Knee-Joint—Synovitis.—Private —— received an accidental wound of the knee-joint, between the border of the patella and internal condyle of the femur. At first, little was thought of it, a few adhesive straps and a roller bandage being applied, and the patient returned to duty. In a few days, owing, doubtless, to imprudence and over-exercise, inflammation, accompanied by pain, fever, swelling, and effusion, set in, while the wound assumed an angry fungoid appearance; but by means of rest in the recumbent position, elevation of the extremity, water dressing, and other antiphlogistic adjuvants, the pain and other symptoms slowly abated at the end of three weeks, leaving the patient, however, lame and stiff at the joint.

Gunshot Wound of Thigh.—Lieut. Massey, while on picket duty at Munson's Hill, received a shot from a small revolver, the bullet lodging anteriorly in the upper third of the thigh, near Scarpa's space. After a thorough search for the bullet, both by Dr. McNulty and myself, it could not be found. A pledget of lint, wet with cold water, was applied, and the patient directed to keep quiet. Two or three days afterwards, though the irritation and pain still continued, he felt so well that he asked permission to go around with a stick, which was permitted. For a while he walked rather lame, but gradually he began to exercise more freely, and in less than three weeks returned to duty. It has not troubled him since.

Capt. Rividan received a shot from a revolver, the bullet passing antero-posteriorly through the calf of the leg, about the middle, and externally to the tibia, which, though grazed, escaped uninjured. In this case, also, the patient, after a few days' rest, began to walk around freely, and in three weeks resumed his ordinary duties. The same gentleman subsequently received a wound of the great toe, on the march to Fairfax Court House, on the eventful day of the battle of Bull Run, by which the toe was severely mashed, requiring evulsion of the nail. He continued to march notwithstanding, though offered a mode of conveyance, and, when the regiment was ordered to return to Alexandria, remained with his company during a severe night. Cold water dressing only was applied with lint and bandage, and in a few days the wound was entirely healed.

Gunshot Wound of Right Index Finger—Fracture of the First Phalanx.—Sergeant Scott had the index finger of the right hand wounded by a ball from a revolver, fracturing the first phalanx about the middle, the joint also being opened and injured. At first, amputation was thought to be necessary, from the mutilated condition of the finger, but it was resolved to try what conservative surgery could effect, for a day or two. Accordingly, a splint was applied on the palmar aspect and cold water dressings used, the arm being suspended in a sling. For three weeks subsequently nothing more was done, except to renew the dressing. The external wound healed up kindly within that period, and in a month he was able to use his musket, the stiffness of the joint having been overcome by passive motion.

Gunshot Wound of Arm.—Private Hicks received a shot from a revolver in the lower third of the arm, the bullet passing through the muscles only, and making its appearance on the inner aspect. It was cut out by Dr. McNulty, and the patient, after a short sojourn of a few weeks in hospital, returned to duty.—*American Med. Times.*

Camp Richardson, near Alexandria, Va., Dec. 1861.

Physical Training.—Among the Parliamentary Papers recently issued, are two small volumes containing some information collected by Mr. Edwin Chadwick during the recent education inquiry. Mr. Chadwick shows in these papers that the present practice of long hours of teaching is a wide cause of enervation and predisposition to disease, and induces also habits of listlessness and dawdling. The half time system is found to give nearly, if not quite, as good education as the whole time; and common sense tells us that a boy who has acquired the same amount of knowledge in half the time of another boy must have obtained a proportionately superior habit of mental activity. It is this alertness, combined with the bodily aptitudes created by drill, that gives the comparatively stunted boys of the town a preference over the strong, robust lads from the coast. Good schoolmasters say that about three hours a day are as long as a bright voluntary attention on the part of children can be secured, and that in that period they may be really taught as much as they can receive; all beyond the profitable limit is waste.—*Med. Times and Gazette.*

DESTRUCTION OF INFANT LIFE IN ENGLAND.—Of the deaths in England, in 1859, no less than 184,264—two in every five of the deaths of the year—were of children under five years of age; and above half of these—105,629—had scarcely seen the light, and never saw one return of their birth day. A very large number of these early deaths are from debility and causes which prove that the children never had much chance of life, but many are suffocated, or otherwise killed, accidentally, carelessly, or worse. In the last five years, within the metropolitan district alone, at least 278 infants were murdered; above 60 were found dead in the Thames, or the canals or ponds about London, and many more than 100, at all events, were found dead under railway arches, on doorsteps, in dust-holes, cellars, and the like.—*Medical Times and Gazette*, August 24, 1861.

NEW YORK PATHOLOGICAL SOCIETY—SUCCESSFUL REMOVAL OF THYROID GLAND.—Dr. Voss gave the following history of a lady aged fifty-four years, from whom he had removed a hypertrophied thyroid gland. At the age of twelve she first noticed an unnatural fulness of the throat, which gradually became more marked and defined up to the time of the operation. No reason could be found for the appearance of the growth, either so far as hereditary, endemic, or any other influences were concerned. During the whole of her menstrual life, which extended from her sixteenth to her forty-eighth year, she had always suffered from dysmenorrhœa, and was in consequence childless. At different periods of the existence of the tumor various forms of medication were resorted to, but the only effect was a slight diminution in its size. Within the last seven years the tumor, having attained quite a large size, occasioned her a great deal of difficulty in swallowing and breathing, so much so that towards the last she was unable to lie down. While in Germany, she applied to have the tumor removed, but the operation was denied to her. At that time she was directed to take iodine, which she did, until iodism was induced. Her suffering from the presence of the tumor at last became so aggravated that she earnestly requested its removal. The size of the tumor before the operation was equal to that of a clenched fist; it was flattened antero-posteriorly. It was situated more to the left than the right, and consequently pushed the trachea to the right side. On palpation neither fluctuation nor pulsation could be felt. When standing erect the head could be moved very well from side to side, but the slightest motion backwards occasioned her distressing dyspnœa. The difficulties in the removal were comparatively small. A long incision was made from the upper part of the thyroid cartilage down to the manubrium of the sternum. As one part of the mass on the left side reached somewhat behind the sternum, the detachment of the tumor was commenced on the outer surface, and the vessels which came from the lower right side were secured. There was comparatively a small amount of venous hæmorrhage in this step of the operation, but when the left side of the tumor was reached the venous flow was very profuse and unmanageable, until the mass being detached as far as possible the chain of the *écraseur* was placed around it and the whole removed. The resulting wound was perfectly dry. The patient progressed remarkably well since the operation, the pulse at no time during the last two weeks exceeding ninety beats per minute.

The tumor, on microscopic examination, proved to be non-malignant in character, and composed of fibroid, colloid, and vascular tissue.

Dr. Wood remarked that operations connected with the thyroid gland were always interesting in connection with the great amount of hæmorrhage that was apt to occur. He stated that the operation for the removal of this gland had been performed two or three times in this city. He knew of two instances of death from venous hæmorrhage. "I recollect," remarked he, "that when I was a student there was a gentleman in this city who attempted the operation upon an English lady; he cut down upon the body, and before he had fairly removed it the venous hæmorrhage was so great that she died. I recollect another case, where the operator attempting to remove the tumor took the precaution to apply ligatures at four different points. They were introduced doubly by needles, and then tied, but so great was the hæmorrhage that the next morning death resulted. I remember seeing the chairman operate on one of these cases and the same thing obtained there; the veins were enormous. If I remember rightly he did not continue the operation necessary for its removal. I take it that the tumor presented to-night is a very unusual form. I have never seen the thyroid body presenting that appearance, having the three characters, vascular, fibroid, and colloid combined."

Dr. Post remarked that the case alluded to by Dr. Wood was one which had been previously seen by Drs. Mott and Van Buren, and neither they nor he regarded the thyroid body as being the seat of the disease; the actual magnitude of the tumor disguised its origin. When, however, the operation was commenced by Dr. Post, it was found that the thyroid body was the tumor, and that the veins which ramified through its substance varied in size from that of the little finger to the thumb. One lobe of the tumor was so much exposed that he applied to it two ligatures, and afterwards unwisely exsected a portion of it. The operation was abandoned, and shortly after frightful hæmorrhage succeeded, and Dr. Wood being near at hand available assistance was rendered. A good deal of febrile excitement followed, the tumor diminished one half as the result of subsequent suppuration, and the patient finally recovered.

Dr. Voss, in answer to a question from Dr. Sayre, gave it as his opinion that the unpleasant result of alarming hæmorrhage was prevented by the timely use of the *écraseur.* He stated that the profuse hæmorrhage at the lower and left part of the gland was due to a large vein which was fully the size of his finger. In the application of the écraseur this vein was left free, the upper parts of the tumor were grasped, and when the supply of blood from the superior thyroid arteries was thus cut off the venous hæmorrhage ceased at once. He agreed with Dr. Wood in saying that the tumor was unique in character, from the fact that it combined three characters in one, and contained none of the cystic elements of which goitrous tumors were for the most part composed.—*American Medical Times.*

RAPIDITY OF GROWTH OF FUNGI.—Mr. Ward, in his work "On the Growth of Plants in Closely-Glazed Cases," says of it: "I had been struck with the published accounts of the extraordinary growth of the *phallus impudicus.* I therefore procured three or four specimens in an undeveloped state, and placed them in a small glazed case. All but one grew during my temporary absence from home. I was determined not to lose sight of the last specimen; and observing one evening that there was a small rent in the volva, indicating the approaching development of the plant, I watched it all night, and at 8 o'clock in the morning the summit of the pileus began to push through the jelly-like matter with which it was surrounded. In the course of twenty-five minutes it shot up three inches, and attained its full elevation of four inches in one hour and a half. Marvellous are the accounts of the rapid growth of cells in the fungi; but in the above instance it cannot for a moment be imagined that there was any increase in the number of cells, but merely an elongation of the erectile tissue of the plant." The force developed by this rapid growth and increase of the cells of fungi is truly astonishing. M. Bulliard relates that on placing a fungus within a glass vessel the plant expanded so rapidly that it shivered the glass to pieces with an explosive detonation as loud as that of a pistol; while Dr. Carpenter, in his "Elements of Physiology," mentions that "in the neighborhood of Basingstoke a paving-stone, measuring 21 inches square, and weighing 83 lbs, was completely raised an inch and a half out of its bed by a mass of toadstools of from six to seven inches in diameter, nearly the whole pavement of the town being heaved up by the same cause." Every one has heard of the portentous growth of the fungi in a gentleman's cellar, produced by the decomposing contents of a wine-cask, which, being too sweet for immediate use, was allowed to stand unmolested for several years. The door in this case was blocked up and barricaded by the monstrous growth, and when forcible entrance was obtained the whole cellar was found completely filled, the cask which had caused the vegetable revel, drained of its contents, being triumphantly elevated to the roof, as it were upon the shoulders of the bacchanalian fungi.—*Macmillan's Footnotes from the Page of Nature.—Med. Times and Gazette,* Sept. 28, 1861.

DEATH OF A QUACK.—M. Giraudeau de St. Gervais, the inventor of the medical *reclame* and advertisement, died a short time ago, leaving a fortune of four million francs (800,000 dollars). This individual was possessed of two *robs* for curing every syphilitic disorder, namely, the *rob Vegetal Anti-syphilitique* and the *rob Boyveau-Laffecteur.* By simultaneously advertising both, he created an apparent rivalry and antagonism between the two nostrums, and thus caused the interest of the public in them never to flag. His yearly expenses for advertising amounted to 200,000 francs (40,000 dollars,) and he had succeeded, nobody knows how, in obtaining the Greek order of the Redeemer, and the Cross of the Legion of Honour, *Requiescat in pace.—Ibid.*

DETACHMENT OF THE EPIPHYSIS OF THE RADIUS IN BOTH ARMS.—A boy, aged eight years was admitted a few weeks ago into the London Hospital, on account of injuries sustained in a fall from a tree. He was suffering from concussion, and could not give a clear account as to the exact manner in which he fell; but it was almost certain that he had fallen forwards, pitching on his outstretched hands, and afterwards striking his head. The deformity was most marked in the right wrist, where it was so great that the receiving-room porter announced the case to the house-surgeon as "a dislocated wrist, sir." As usual in these cases, which by untrained observers are considered to be dislocations of the wrist, the lesion proved to be a detachment of the extremity of the radius. By extension all deformity might be removed. No crepitus was felt. In the left wrist the state of things was exactly similar, but the deformity not so great. Both were put up in splints in the usual manner.

The boy remained in the hospital about a fortnight, on account of his head symptoms, and from which at the time of discharge he had wholly recovered.

Three weeks after the accident the epiphysis were firmly united to the shafts, with, however, a large amount of thickening and some displacement forwards.

Mr. Hutchinson remarked to the students that this was the first instance of a symmeterical detachment of the radial epiphysis which he had ever met with. He had, however, several times seen

Colles's fracture of the radius in both arms, and it was to this accident in the adult that detachment of the epiphysis in children was analogous. Both forms of injury usually resulted from falls forward on the palm of the hand. In young persons the epiphysis slipped off, whilst in those whose bones were fully ossified, fracture took place across, or very near to, the line of union. Detachment of the epiphysis, although but little spoken of in books, is by no means rare in practice. It is true that Colles's fracture in adults is very much more common than is detachment in children. But then we must remember that fracture of the clavicle, which is due to the same form of violence, is much more common in children than in adults. At University College Hospital alone, during a single month, there were as many as twenty cases of clavicular fracture in children, as we were informed by Mr. Lyons, the house-surgeon. As a rule, it requires much greater force to detach an epiphysis than to break a fully ossified bone, and it is to this fact that we must refer the disproportion alluded to.—*Lancet,* Aug. 24, 1861.

RAPID ABSORPTION OF PUS FROM THE ANTERIOR CHAMBER OF THE EYE.—If any of our readers still doubt as to the possibility of the absorption of pus the following case may be of interest. It illustrates an event which is not at all unfrequent in the practice of our ophthalmic hospitals, though the process was certainly more rapid than usual:

Richard D., a boy, aged 6, was admitted under Mr. Dixon's care, at Moorfields, on Thursday last. His right eye was acutely inflamed, there being a central ulcer on the cornea and hypopyon. The quantity of pus in the interior chamber was, perhaps, about two drops, it was quite fluid, occupied the most dependent part of the chamber, and moved on motion of the head. There had been no known injury, the inflammation having commenced spontaneously with much pain three days before. The boy appeared out of health and feeble. He had already been well purged. A blister was ordered to be put behind the ear, and a grain of quinine to be taken three times a day. When the boy attended on the following Monday *every vestige of the pus had disappeared,* and the whole aspect of the eye was greatly improved.

The result of this case cannot but be instructive to those who advocate paracentesis of the anterior chamber in hypopyon. With regard to the general question of the absorption of pus, we may ask, why should not that occur in abscesses, in empyema, in suppuration of joints, which we see so clearly and so frequently in cases of purulent effusion into the anterior chamber of the eye?—*Ibid.*

HOUSEMAID'S KNEE.—Mr. Skey has purposely admitted into St. Barthlomew's, a large number of cases of this affection, and they may be supposed to have presented every variety of form, character, and stage of progress. "I am not sanguine enough," he observes, "to entertain the hope of shaking the confidence of many surgeons in the efficacy of blisters and tincture of iodine, which may be applied and reapplied for months without the smallest impression on the disease, so far as I have witnessed their effects. Indeed, with respect to the latter agent, I regret to say that I know of no chemical or therapeutical agent in such general resort as a local remedy in disease which is so commonly inoperative for good; and in these bursal diseases it appears to me to be especially so. If a full sized thread be passed through the center of the swelling, be it large and hard, giving the sensation of a solid mass, but in the center of which is always found a small cavity or fissure; or be it soft, and containing fluid, whether large or small, suppuration in the course of from two to five or six days, will inevitably follow. The thread may then be removed. The disease is converted into an abscess, and may be treated as an abscess. I may assert, without exaggeration, that I have cured from 100 to 200 cases on this simple principle. No other caution is necessary beyond the removal of the thread when the orifices through which it has passed indicate the inflammatory action incidental to its presence.

"The same agent, and on the same principle, is equally applicable to *ranula*. Indeed, it is quite remarkable with what rapidity this disease recedes under the action of the thread, whether the cyst be of average or of the largest size. Of the latter I have reported some, and treated several of such magnitude as to require the lower end of the thread to be brought out in the neck at some distance below the base of the jaw."—*Lancet,* October 5, 1861.

TIN FRACTURE SPLINTS.—Prof. Cooper, in the San Francisco *Medical Press,* says:—"For a long time we have been in the habit of using tin instead of wood for fracture splints. This material is so far superior to all others used for the purpose, that we are greatly surprised that manufacturers of patented splints have never adopted it instead of wood. It is lighter, stronger, far cheaper, and can be moulded into any desirable shape by the surgeon. Thus, as is often the case in compound fractures, it being desirable to have some particular part exposed, the surgeon may go to any tinner, and procure, at very trifling expense, the splints, with the necessary openings, which cannot be the case with the use of wood. Any tinman can easily make the splints, but few workmen can make them properly shaped of wood. We would particularly commend them to young practitioners, who may not be able to equip themselves with the more costly appliances, in the commencement of their practical careers."

REGENERATION OF BONE.—Dr. Lamare-Piquot has communicated to the Academy of Sciences a highly interesting paper relative to a case of regeneration of bone which occurred in his practice. The patient, a boy of fourteen, met with a fearful railway accident, one of his arms being broken and one of his legs crushed under the wheel of a baggage truck. The tibia was smashed, or rather pulverized, into innumerable splinters, many of which were removed; and the fibula was in a like desperate condition. Although, from the nature of the case, a conservative course seemed to be rather hazardous than otherwise, nevertheless an attempt was made to save the leg. The limb was placed on a splint, and subjected to continued irrigation for the space of thirty-seven days, the quantity of water daily used in the process varying from twenty to twenty five quarts. At the end of three months the few remaining shreds of periosteum began to resume their bone-making functions; and so successfully is this second crop of osseous tissue proceeding at the present moment, that ere long the entire tibia will have been replaced by new material, and the boy be able to walk without crutches.—*Lancet,* Aug. 31, 1861.

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Original Communications.

Army Diseases. By Surgeon R. N. BARR.

CAMP AT SUMMERVILLE,
Western Virginia, Jan. 10, 1862.

J. DAWSON, M.D., *Editor Ohio Medical and Surgical Journal:*

DEAR SIR:—Eight months since, on entering the Medical staff of the great army, hastily organized for quelling the rebellion, and preserving the Confederacy, it was my intention to transmit to you for publication in your valuable journal, such matters of professional interest as, from time to time, came under my observation. But, I soon found my time so completely occupied, by the medical requirements of those assigned to my care, as to prevent all correspondence, except such as were purely of a business or social character.

As a substitute for what I designed to do, I herewith transmit you a copy of my "official report" (together with the tabular statement of the sick, wounded and dead) of the sanitary condition of the Thirty-Sixth Regiment Ohio Volunteers U. S. A., for four months ending December 31st, 1861, with such interpolations and additional remarks, as may be of interest to the profession.

On the withdrawal of the Ohio State troops from Western Virginia, by reason of expiration of term of enlistment, in the latter part of August last, I was, by his Excellency Governor Dennison, assigned as Surgeon to the Thirty-Sixth Regiment Ohio Volunteers, then organizing "for three years or the war," at Marietta, Washington county, Ohio. I reported for duty on the the 24th of said month, (August) and immediately commenced the inspection of the men, preparatory to their being mustered into the United States service. The organization was completed on the last day of the month—the Regiment containing nearly the maximum number, including officers and enlisted men about 1,040. The enlisted men, were mostly young men, from the rural districts of Washington, Jackson and Athens counties, of industrious and temperate habits, and patriotic to the highest degree—most of them in comfortable, and many of them in affluent circumstances. As soon as the organization was effected, the Regiment was assigned to Gen. Rosecrans' Division, in Western Virginia, and immediately took the field, under orders to effect a junction with the main division of the army, then on the march from Clarksburg, Virginia, to attack Gen. Floyd's Division, of the Confederate forces, supposed to be at some point on the Gauley River, or its tributaries, in Braxton or Nicholas counties. The route of a portion of the Regiment (six companies), was by forced marches up the Little Kanawha, to its headwaters, at Bull Town Saltworks—skirmishing often with bands of bushwhackers—thence, Southwesterly to Sutton, on Elk River, in Braxton county, and thence, in the same general course over Powell's and Birch Mountains, to Summersville, Nicholas county, effecting a junction with the main division of the army of Western Virginia, at Carnifex Ferry, on the Gauley River near Summersville, just two days after the sanguinary battle at that place, on the 13th of September. Since that date the Regiment has been stationed at Summersville, together with one company of Pennsylvania Dragoons, for courrier duty, and whose medical and surgical wants were confided to my care, and so reported in my Regimental Report, herewith submitted. On the removal of the main division of the army, about fifty of the sick and wounded, of the Twelfth Regiment Ohio Volunteers, were left in my care; also, the sick and wounded of detachments of other Regiments, mostly of Virginia Volunteers, who were with us on the march, or were stationed at times in our vicinity, were also under my charge, but do not appear in this report, but special reports of them were from time to time, made to their respective Regimental Surgeons, and by them to the proper Department. It is proper here to remark, however, that in all the skirmishing or guerrilla warfare, which is constantly being waged in this part of the field of operations, the Virginia Volunteers and *Home Guards,* suffered in killed and wounded much more than the Ohio or Regular troops, from the fact that the Secession or Confederate forces, seemed to hold them in special malignity, and made them the special mark of their long rifles, which they used in some instances with terrible effect upon them.

On the march from Parkersburg, at which point we crossed the Ohio River, to Summersville, we were at all times upon the upper Coal Measure. The stratified rocks were chiefly sandstone and shales; very little lime was seen, and few workable seams of coal. The valleys are those of erosion, worn out by the natural draining of the surface during long geological ages. On the lower portion of the Little Kanawha River, the strata are very nearly horizontal. The only exception to this is at Burning Spring, Wirt county, a place visited by a part of our force. Here the river crosses a remarkable line of up-lift of strata. It is in the subterranean fissures along the anticlinal line of this disturbance, that vast quantities of petroleum distilled from bituminous strata below have accumulated, and the oil wells which strike these, are the most productive in the *world.*

The waters of the Little Kanawha and its tributaries, especially near its mouth, are generally turbid, rendered so by the disintegrated clay shales, brought down by every streamlet. The water, however, is not thought to be unhealthy. Such is the geological formation, that very few springs are found on the hill sides. The timber on the hills is chiefly oak; in the valleys, the beautiful "Magnolia Virginiensis" is often found. Higher up, the stream becomes more clear and attractive. The Elk River, where we crossed it at Sutton, in Braxton county, is very clear and beautiful. Birch and Powell Mountains, lying between Elk and Gauley Rivers, are rather ranges of enormous hills than mountains. They are composed of horizontally stratified rock, chiefly sandstone. The valley, and lower grounds on either side of these, have been gradually worn away, leaving these high elevations as the interesting remains of strata which, once were of vast extent. Summersville, where the Regiment is still *bivouaced,* is in the carboniferous formation, and the hills on all sides abound in coal. The soil is made up chiefly of disintegrated clay shales. It is a wet, cold soil, and the decomposition of vegetable matter, which should take place in the summer is delayed, thus making the autumn and early winter unhealthy; and in consequence of which, together with other causes hereafter to be mentioned, our troops suffered with a terrible epidemic of severe and decimating *fever.*

A part of the Regiment came to this place from Parkersburg, Virginia, to Pt. Pleasant by steamboat, and thence, by the same mode of conveyance up the Great Kanawha, to Camp Piatt, eleven miles above Charleston. Near Camp Piatt, are the once famous Kanawha Salines. The brine comes from depths varying from 1,000 to 1,400 feet below the surface. The area in which good wells can be found is small. This limitation of area, is doubtless due to the particular circumstances under which the saliferous sand rock was originally deposited. At Cannelton, on the march from Camp Piatt to Gauley Bridge, a remarkably fine seam of cannel coal is found, besides several seams of common bituminous coal.

Some coal plants of unsurpassed beauty were also seen. The Kanawha in its upper part flows in a deep gorge like channel, having excavated its bed by the slow work of erosion. The scenery on its banks is exceedingly picturesque, and in many places grand. The road upon the banks often passes under high, belting crags, and there are many places where a small force could hold back a large army. The road from Gauley Bridge to Summersville, passes a part of the way along the banks of the Gauley River.

This river has also excavated a deep valley, which in many places may almost be called a canon, so bold are the overhanging cliffs.

The amount of sickness in the Regiment has been, as the tabular statement shows, very great, and with a gradual increase as to the number of cases and malignancy from the 1st of September till about the 20th of December. But the fever cases did not assume the genuine typhoid character in our Regiment, until about the middle of October, although it existed in that character and with great severity in the Twelfth Regiment Ohio Volunteers, in Summersville, at the time of our arrival on the 15th of September, the fatality among them, being not less than one in six or seven cases. During the march from Parkersbug to this place, the health of the troops was comparatively good, a few broke down by the way, footsore and exhausted, and some suffered with diarrhœa, but this, as a general rule, was easily controlled. The march was made under peculiar and trying circumstances for the troops, and in many a brave soldier, during that march of 190 miles, were the seeds sown which afterward germinated in disease and resulted in death. The emergency being great, the field of active operations was taken before the Commissariat, Quartermaster and Hospital Departments were adequately supplied. Every thing necessary in all the departments had been ordered, and to the honor of the heads of these departments, be it said, that every proper requisition was promptly and fully honored, but the time was too limited, consequently at the outset we had neither tents, blankets, nor, with a few exceptions, overcoats—but few medical and no hospital stores, and these deficits were not and could not be supplied for nearly two months. The men had not even a change of wearing apparel. During the march it rained almost daily. In the mountains the weather was cold and chilly for the season. A greater part of the route, skirmishers had to be kept out, scouting the hill sides and tops, to prevent the battalion from being ambuscaded by bands of bushwhackers. The hills were in many places very rugged and precipitous, always thickly covered with undergrowths and always wet, making this duty very laborious and exhausting; and also, productive of another serious evil, viz: Hernia Inguinalis. It is easy to understand how a hernia can be produced by the straining and fatiguing labor of continually clambering up and down precipitous hills, carrying a heavy musket, and wearing a tight belt with from twenty to forty rounds of ammunition in the cartridge-box attached thereto. From this cause we lost two men; in one, although, the hernia was reduced as soon as the subject was presented to me, but intussuceptio followed, as a post mortem revealed. In the other, reduction by the taxis failing, the knife was resorted to, but gangrene had taken place in the strangulated bowel, and the patient succumbed in six hours after the operation. In this case the poor fellow had suffered in silence and concealment for four days, and until stercoratious vomiting set in. To remedy this evil as far as possible, which threatened to be a serious one, on my recommendation, the belt with cartridge-box attached, was worn loosly, and kept in position by leather straps pressing over the shoulders.

Under all the depressing circumstances of the march, the command bore up under it well, hoping and expecting at the end of it a battle and a glorious victory. *The battle and the victory came*, but our battalion did not reach the scene of action until two days after the engagement, and our wearied, disappointed and disheartened troops were ordered into quarters at this post (Summersville), where we were joined some four weeks later by the remainder of our Regiment, and where we have remained ever since, performing a large amount of scouting and foraging duty. The town is situated in a small valley, about four miles from Gauley River, and surrounded on all sides by high hills. The soil, as before stated, is made up of disintegrated clay shales, and is cold and wet. The houses, from forty to fifty in number, are generally small log structures, illy constructed, with low ceilings, and but few and small windows. The *denizens* having deserted the place, our troops occupy the houses; the town had been previously, and alternately, occupied by the Federal and Confederate forces, and was very filthy. The 12th Regiment had a hospital there containing about 40 patients—a few wounded, but mostly camp or Typhoid Fever cases. The Hospital was on an eminence at the west end of the village; was very small, and consequently much crowded, having as many as twelve fever patients in a room of 14 by 16 feet, and with a ceiling of not over 7 feet high. The 12th Regiment was ordered to another post, and their sick were left under my charge; and as my medical and hospital stores had not yet been brought up, and but few being left with me, I was much crippled as to medical resources, but immediately secured another building; thinned out my patients to from four to six to a room; depended mostly and of necessity to ventilation; kind and cheering words; some stimulation to those most exhausted and emaciated, with such nourishing diet as could be obtained from the Commissariat Department and in the neighborhood. This course had its effect upon the men. They became more cheerful and hopeful, the desperate cases were put in different rooms from the more hopeful, and as they died, they were quietly and secretly removed and interred; but the per centum of mortality was large—five out of the party died, but one of these was a gunshot wound; the man was shot through the right breast; the ball, from a large bore rifle, entered the thoracic cavity, just below the nipple on the right side, fracturing the sixth rib as it entered, passed through the lung, and out about two inches to the right of the centre of the spinal column, and fracturing the seventh rib near its articulation as it passed out. The patient survived the injury but three days.

While speaking of this case, I will remark that gunshot wounds, penetrating the lungs, if one lung only be injured, are not necessarily fatal. During the campaign, I have treated five persons where the parties were shot in the breast, the ball or shot passing entirely through the thoracic cavity and lung, or lodging in the walls, and was removed with the knife and forceps; and the one above alluded to being the only one that proved fatal. Very little treatment is required in these cases; simple, light cold-water dressings is all that I found necessary, with a light unstimulating diet. The same remark is true of gunshot wounds in a large majority of cases. A ball or buck-shot passes through the fleshy portion of the body, or a limb, if the bones or important blood-vessels be uninjured, usually nothing more is required than simple cold-water dressing, a piece of lint held in position by a fold or two of roller, or what is easier applied, a couple of strips of Husband's adhesive plaster, with perfect rest, is the only treatment usually required. Fortunately the arteries are seldom injured; being elastic and contractile, they have a happy faculty of getting out of the way. I have seen instances where a ball passed through the upper arm or thigh, apparently in the direct line of the brachial or femoral arteries, and yet these vessels sustained no injury, and a few weeks was sufficient to repair the injury sustained to the limbs. In fact, operative surgery is by far the smaller portion of an army Surgeon's labor and duty—the wounded by far the fewer number of his patients, and the killed constitutes but a small share of his mortality bill, even in time of active campaigns. And he is by far the most successful and useful army surgeon who exercises the most constant vigilance over the general welfare of the command assigned to his medical care—who enforces with inflexible will and untiring energy the rigid hygienic rules laid down in the Army Regulations—who exercises his judgment, his influence *and his authority* in the selection and location of encampments; all these matters he must attend in person—not by proxy. In the Volunteer service much devolves on the Surgeon that, in the Regular service, is done by company officers, from the fact that, in the Volunteer service, these officers are ignorant of the vital importance of these matters, and are slow to learn them.

Soon after our arrival at this post, the troops of our regiment began to be attacked with intermittent, remittent, and continued fever, and a hospital was established for their reception in a different part of the village from the hospitals of the 12th Regiment, containing the Typhoid patients. But at this early day these forms of fever presented some of the Typhoid characteristics, which so manifestly characterized the epidemic that soon followed, as was apprehended. There were prostration and muscular soreness to a much greater extent than usually attends these forms of fever;

severe pains in the back part of the head, and a stiffness and soreness of the muscles of the neck, particularly the sterno cleido mastoid were universally present—these in fact were the pro dromes of the coming troubles. The chills were light, but came at regular intervals, usually in the early part of the day. The reaction was not great, but the febrile stage in the intermittents continued till 8 or 9 o'clock in the evening; but the pulse never came down to its normal standard as to frequency, even when the intermission in other respects seemed perfect and the sweating stage well marked. The condition of the tongue was also peculiar and uniform. It was very broad and large, having the impressions of the teeth around the entire border, and deeply creased in the centre; was tremulous, and was protruded with difficulty and slowly; was usually covered with a heavy, dark-brown coating in the centre and back portions; the edges and tip red, and although there was considerable diarrhœa in camp in the early autumn with these forms of fever, it was not, with few exceptions, a troublesome complication. As the season advanced, and the fever in our camp became more and more of the Typhus or Typhoid character, diarrhœa became less frequent, and oftentimes, unless laxatives were administered, the bowels would not be moved for two, three, and four days. Anti-periodics, even in the cases where the remissions were the most perfect, seemed to act slowly and imperfectly in controlling or interrupting them; and where the remissions were less perfect, it had no other influence except to increase the cerebral disturbance, produce greater dryness of the tongue and fauces, and the frequency of pulse. But after convalescence was established, quinine in small quantities, in connection with wine, had a very happy effect in aiding the recuperative powers. Gradually the new cases assumed more and more of the true Typhus character, and by the middle of October it was manifest that we were doomed to an epidemic of what is commonly called the Camp Fever, but what was evidently a true Typhus Fever.

The number of cases increased in frequency and severity. The men came in by scores, at Surgeon's call in the morning, to report themselves on the sick list, and for medical aid. A moment was sufficient for making a diagnosis; almost all were alike affected. Slowly, and with an unsteady gait, a pale face and pinched features, would the poor men come up, one after another for hours, to be prescribed for and ordered to the hospital, and from which they would not emerge again for three, four or six weeks, unless to be carried to a soldier's grave. The disease was generally ushered in by a sensation of chilliness, severe pain in occipital region, or occipito-temporal regions, with great soreness and stiffness of the muscles of the back and sides of the neck, and general physical prostration; the pulse frequent and feeble; tongue large, flabby, heavily coated with a dark brown coating, deeply creased in the centre, and protruded with difficulty; utterance slow; skin dry, and of a dusky hue—not hot. The sclerotic coat of the eyes also presented a bronzed or dusky appearance; the urine was scanty, and high colored; in fact there seemed to be a lacking of, or suspension of all the secretions. In the course of from two, three, four days, or a week, in proportion to the virulency of the morbific action, coma, partial or complete, or delirium would ensue; sordes would collect in large quantities on the teeth and lips; the tongue become perfectly dry and crisped. But there was seldom present any tendency to diarrhœa; no tympanites, but occasionally troublesome gastric irritability.

At the end of this stage, if the patient survived it, profuse perspiration came on; the disposition to coma disappeared; for a few days there would be a partial return to consciousness—a period of mingled hope and fear to the surgeon. But, with the sweating stage, *did not come the rose-colored spots, or petæchea, nor tympanites;* occasionally, but rarely, even the sudamina (the sweat was of a cold, clammy character); nor did diarrhœa present itself sufficiently frequent to be called pathognomonic, except in those cases that were to terminate fatally, a few hours before death, when there was a perfect relaxation of the entire system—a letting go, as it were, of the powers of life. Not unfrequently large hemorrhages from the bowels would occur; sometimes these would occur less freely at first, and continue at frequent intervals for several days; but this was purely a hemorrhage, and not a diarrhœa. On pressure, however, over the illiac regions, more or less tenderness was generally found to exist. And occasionally there was diarrhœa; but much more frequently the bowels were costive through all the stages of the disease, or until within a few hours before death, in fatal cases.

A peculiar feature in the disease was, that in almost every case of any severity, with the appearance of the sweating stage, there appeared glandular inflammations, generally in the parotids or submaxillaries—in two instances, it appeared in the testicles. These swellings would attain to an enormous size. Sometimes they would terminate by resolution, but more frequently by suppuration. Abscesses in other places too were of common occurrence and from them would come an incredible amount of purulent discharge. Decubitis was also frequent. There was also another concomitant that was peculiar and altogether new to me: that was a severe pain in the feet. It usually made its appearance in the great toe, and was gradually extended to all the toes of both feet, and sometimes involving the whole of both feet and ankle-joints. It was seldom accompanied with swelling. The pain was excruciating in severity, appeared to be neuralgic in character, and was temporarily relieved by warm fomentations and anodynes.

But experience soon taught me to hail its appearance with *joy*—for it was invariably *the harbinger of convalescence.* This was so apparent and uniform as to be observed by the attendants; and on making my appearance in the hospital wards, the nurse would say to me—*Such* a man is going to get well, for he has been groaning all night, or all day, with a pain in *his big toe.*

In the table of classification, it will be observed that there are but 233 reported as typhoid, 18 as typhus, and 344 of all forms of idiopathic fever. But double this number might very properly have been put in this classification; for everything took on the typhus character, and would run the usual course of that fever. Rubeola, which made its appearance about the middle of October, proved a very troublesome complication; frequently either preceding or appearing near the close of the fever, and, when complicated with pneumonia, almost universally proved fatal.

Before attending to the treatment, it is proper to remark, that as soon as it was evident that we were in danger of an epidemic, every possible effort was made, so far as practicable, to avert and modify its virulency; and in every suggestion, as to the general hygienic rules for the government of the camp, I had the hearty co-operation of our worthy Colonel (Geo. Crook), who, being a military man by profession, and large experience in camp and military life, was prepared to act with intelligence. The houses being too small and few in number to accommodate the men, without overcrowding, as soon as it was practicable, additional barracks were built; but, for this purpose, a saw-mill had first to be constructed, and lumber sawed; and, as before remarked, the place having been previously, and for a considerable time, occupied as a camp, was very filthy. All filth, rubbish, offal, and everything calculated to engender disease, was removed. Sinks were removed to long distances from the barracks. A thorough drainage for the removal of all surface water was made. Board walks, to keep the men out of the "sea of mud" that everywhere prevailed, were constructed. As early as it was possible to obtain them, an abundant supply of good and warm clothing and blankets were supplied the men. Daily rations of fresh beef were issued, and potatoes, or dessicated vegetables, when they could be obtained. A rigid surveillance was had over the culinary departments of the men, and also as to their habits of cleanliness of person, apparel and quarters; and, as thorough drilling is necessary to make good and scientific soldiery, for this purpose, a large drill-house was built, that the men might have the proper training without exposure to the mud and pitiless storms of rain, snow and sleet that were of almost daily occurrence. The drill had also the good effect of keeping the men mentally and physically occupied, and prevented them from huddling together in large numbers in their quarters, and thus breathing a vitiated atmosphere, for long periods of time.

But there were exciting causes which we could not remove or remedy. The location was unhealthy, and engendered disease from causes before mentioned. Our men went into this camp exhausted from a long march and over much exposure. They had a large amount of scout, forage and guard duty to perform. Whole companies, or two or three of them, would be out for three or four days and a week at a time, with no shelter at night but the *leaky heavens*, and no provender except what they could carry in their haversacks. Are these causes not sufficient, without looking further—without looking for some occult operation of nature—or without blindly attributing to a specially appointed dispensation of a Divine Providence, this epidemic, so malignant and widespread, through our regiment? Another evidence in favor of causes above assigned, is, that the officers, who, from the outset, were better clad, *better fed*, and provided themselves with better quarters, though not exempt, were attacked in a less pro rata, and with less virulency—not one commissioned officer, up to this date, having died out of our command.

About the 1st of December, the daily average of the sick list having reached 240, and still on the increase, and the whole command laboring under the enervating and depressing morbific influences to which it was exposed, I recommended my assistant surgeon, Dr. J. H. Whitford, concurring, the issuing of two ounces of whisky daily—one in the morning and one in the evening—to all the troops who were on *police*, on guard duty, or out on scouting or foraging expeditions, or from any cause exposed to the inclement weather, or employed in exhausting labor. I was led to expect beneficial results by this course, as a prophylactic, for two reasons: 1st. Because of the great depression of the vital energies and impairment of envervation, not only of those on the sick list, but of the whole camp. 2d. I had observed that, in the beginning of the epidemic, I could not keep nurses in the hospitals, where, notwithstanding the ventilation was as good as can be attained in any hospital, the morbific action was great, for more than three or four days, until they were taken down with the fever, I soon commenced the administration of one ounce of whiskey to every nurse or attendant in the hospitals, before each meal. The result was, I could keep a nurse as long as was desirable, without his suffering deleterious effects from confinement in the wards of the hospitals. I spent from six to eight hours a day myself among the sick, but always fortified myself against the depressing tendency of the vitiated air of the wards, with an ounce of whisky, morning and evening, before commencing my rounds, and escaped with a very mild attack of the fever.

I was not disappointed in the effects of the administration of the alcoholic stimuli. Almost immediately, new cases of fever became fewer, and much milder in character. For the twenty days last past, very few new cases have appeared, and they of a mild character. The wards of the hospitals are thinning out, and health, cheerfulness and happiness are again returning to our camp.

In regard to the treatment, I have to say that the complications were so many and so various, that the treatment, as a matter of necessity, had to be varied. In the first place, perfect ventilation and cleanliness were rigidly enforced. During the early stage of the epidemic, while yet it had more of the specific features of a malarial than a typhus fever, quinine and the antiperiodics generally so sadly disappointed me in its effects, that later in its progress, when it had assumed a graver form and a more genuine typhus character, I had little faith in this drug as a curative agent; and when administered in the first stage of the fever, it seemed only to aggravate, by increasing the delirium, the frequency of the heart's action and the dryness of the tongue (alcoholic stimuli had the same effect); showing that what acts admirably as a preventive of a fever, will not cure it when once seated. In fact, I am about ready to agree with Watson, when he says "we cannot cure a fever;" but we can do much to conduct a fever patient safely through, when he would *be wrecked* if left to its pitiless storm. As the bowels were generally costive in the outset, I usually administered a laxative or mild cathartic, or, if much gastric irritability or nausea, an emetico-cathartic; from this, much relief to the pains in the back of the head, neck and back were afforded. And whatever may be said to the contrary, I found a small dose—four or five grains—of calomel, with about half the amount of ipecacuanha, followed, in from four to six hours, if necessary, with castor-oil and turpentine, to answer a better purpose than any other drug.

The effect was not merely to unload the stomach and bowels of any irritating substance; but the relief to the head and back was most marked and manifest. The thirst and dryness of the tongue and fauces were diminished, by at least the partially restored function of the salivary glands. The effect upon the circulating system was also evident, in diminishing the frequency of the pulse, while its volume was not diminished. The oleaginous mixture was repeated with sufficient frequency to keep the bowels in an open and solvent condition. Alkalines were exhibited *ad libitum*, and diuretics and sudorifics during the more febrile stage. When great nervous irritability was present, with delirium and wakefulness, camphor and opium were, at bedtime, given, not in measured quantities, but till quiet and sleep were induced. At the earliest appearance of a moist and relaxed skin, a tonic and stimulating course was resorted to, with a nourishing diet; and this course was pushed in proportion to the amount of exhaustion. Where the exhaustion was great, with a heavy drain from purulent abscesses, or, in a few instances, from diarrhœa, the amount of tonics and stimulants required were almost incredible, and during this stage, *quinine and alcoholic stimuli became indispensable.* In a few instances during the early stage, where the fever was of a more sthenic character, or where pneumonia was present, veratrum was given; but I cannot say that it had any other effect than simply to reduce the heart's action. I have never been satisfied with the action of this drug, except in the primary stage of pneumonia—and even here, antimony and calomel have been more satisfactory in their results than veratrum.

Of the divers complications met with in the course of this epidemic, and the various modifications of treatment to meet them, I will not now speak; in another communication I may allude to them at some length. In conclusion I will express the hope that the result attained in the treatment of those confided to my care, will meet the hearty approval of the Chief of the Medical Staff of the Army, and of the public generally. I think the result will compare favorably with that attained, during similar epidemics, in civil hospitals and in private practice, in this country. As is shown in the tabular portion of my report, the deaths of typhus and typhoid fever are 1 to 16 cases; and of all forms of idiopathic fever, 1 in 21¼ cases; and of the whole number of cases of sickness and wounds, 1 to 37 cases; and, as elsewhere stated, it must be borne in mind, that every disease seemed to be transformed in this terrible typhus scourge. In the Crimean war, during the epidemic of typhus fever, 35,000 French soldiers were attacked with it; and Serive, in his report, says 17,515 were by it placed "*hors du combat*," or over 50 per cent. The report of the English Medical Director-General has but a slightly better showing.

Report of the Sick and Wounded of the 36th Regiment, O. V. U. S. A., serving in Western Virginia, for the months of September, October, November and December, 1861.

CLASSES OF DISEASES.	Specific Diseases.	TAKEN SICK OR RECEIVED INTO HOSPITAL DURING FOUR MONTHS.												Remarks.
		Sept.		Oct.		Nov.		Dec.		Total by each Disease.		Total by each Class.		
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Fevers	Febris Congestiva...	2	......	......	......	......	......	......	......	2	......	344	16	Of deaths of typhus and typhoid fevers, 1 in 16 cases. Of deaths, of all forms of fevers, 1 in 21¼ cases.
	" Continua	......	......	22	......	9	......	......	......	31	......			
	" Intermittens	14	......	23	......	12	......	......	......	49	......			
	" Remittens....	6	......	5	......	......	......	......	......	11	......			
	" Typhoides ...	2	......	38	3	140	6	53	6	233	15			
	" Typhus.......	......	......	......	......	......	......	18	1	18	1			
Eruptive Fevers	Erysipelas	......	......	......	......	1	......	2	......	3	......	112	......	
	Rubeola	......	......	16	......	62	......	31	......	109	......			
Diseases of the Organs connected with the Digestive System	Cholera Morbus......	2	......	3	......	7	......	......	......	12	......	213	......	
	Constipatio...........	3	......	9	......	9	......	11	......	32	......			
	Diarrhœa..............	37	......	34	......	26	......	13	......	110	......			
	Dysenteria...........	1	......	19	......	11	......	......	......	31	......			
	Dyspepsia.............	......	......	......	......	2	......	......	......	2	......			
	Exhaustio	13	......	......	......	......	......	......	......	13	......			
	Gastritis...............	......	......	4	......	......	......	......	......	4	......			
	Hepatitis	......	......	3	......	......	......	......	......	3	......			
	Splenitis...............	......	......	......	......	1	......	2	......	1	......			
	Tonsilitis..............	......	......	1	......	2	......	2	......	5	......			

REPORT OF THE SICK AND WOUNDED—Continued.

CLASS OF DISEASES.	TAKEN SICK OR RECEIVED INTO HOSPITAL DURING FOUR MONTHS.													Remarks.
	Specific Diseases.	Sept.		Oct.		Nov.		Dec.		Total by each Disease.		Total by each Class.		
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Diseases of the Respiratory System	Asthma..................	......	......	1	......	......	......	......	......	1	......	195	7	Of the cases recorded of Typhoid pneumonia, the per centum of deaths is great; but in every case, with one exception, it was complicated with Rubeola.
	Bronchitis..............	......	......	2	......	......	......	......	......	2	......			
	Catarrhus	6	......	25	......	63	......	49	......	143	....			
	Diphtheria	......	......	3	......	16	......	8	......	27	......			
	Phthisis Pulmonal..	2	......	2	......	2	......	1	......	7	......			
	Pleuritis................	......	......	......	......	2	......	2	......	4	......			
	Typhoid Pneumonia	......	......	......	......	1	......	10	7	11	7			
Diseases of the Circulatory System	Varicocele	......	......	......	......	1	......	1	......	2	......	3	......	
	Endocarditis	......	......	1	......	......	......	......	......	1	......			
Diseases of the Brain and Nervous System..........	Epilepsia...............	......	......	2	......	......	......	1	1	3	1	9	1	
	Neuralgia..............	......	......	3	......	......	......	......	......	3	......			
	Neuralgia Fasciale.	......	......	......	......	1	......	......	......	1	......			
	Sciatica.................	......	......	2	......	......	......	......	......	2	......			
Diseases of the Urinal and Genital Organs, and Venereal Affections......	Orchitis	......	......	......	......	2	......	......	......	2	......	4	......	
	Sarcocele	......	......	......	......	1	......	......	......	1	......			
	Urethritis	......	......	......	......	1	......	......	......	1	......			
Diseases of the Fibrous & Muscular Structures.....	Rheumatismus	9	......	13	......	9	......	1	......	32	......	33	......	
	Coxalgia.................	......	......	......	......	......	......	1	......	1	......			

Wounds and Injuries	Abscesses	......	......	2	......	2	......	......	......	4	......	49	1
	Carbuncle	......	......	4	......	......	......	......	......	4	......		
	Phlegmon	3	......	......	......	1	......	......	......	4	......		
	Ulcus	5	......	2	......	1	......	......	......	8	......		
	Vulnus Combustio	......	......	......	......	1	......	......	......	1	......		
	Contusio	......	......	......	......	1	......	1	......	2	......		
	Fractura	......	......	1	......	......	......	......	......	1	......		
	Hernia	......	......	2	......	5	1	......	......	7	1		
	Sub Luxatio	3	......	......	......	......	......	1	......	4	......		
	Vulnus Incisum	1	......	2	......	2	......	......	......	5	......		
	Vulnus Sclopeticum	......	......	7	......	......	......	2	......	9	......		
Diseases of the Eye	Ophthalmia	2	......	7	......	4	......	......	......	13	......	15	......
	Conjunctivitis	......	......	......	......	......	......	2	......	2	......		
All other Diseases	Debilitas	4	......	1	......	......	......	2	......	7	......	25	1
	Hæmorrhoides	1	......	......	......	2	......	1	......	4	......		
	Morbicutipedis	1	......	......	......	......	......	......	......	1	......		
	Herpes	......	......	1	......	3	......	......	......	4	......		
	Scabies	......	......	......	......	4	......	......	......	4	......		
	Intussuceptio	......	......	1	1	......	......	......	......	1	1		
	Colitis	......	......	......	......	......	......	1	......	1	......		
	Jaundice	......	......	......	......	......	......	3	......	3	......		
Summa	......	......	......	......	......	......	......	......	......	......	......	1,002	27

GENERAL SUMMARY.

REMAINING LAST REPORT.											REMAINING.			MEAN STRENGTH.						RATIO PER 1000 OF MEAN STRENGTH.		REMARKS.
Sick.	Convalescent.	otal.	Taken sick during last four months.	Aggregate.	Sent to General Hospital.	Returned to duty.	On furlough.	Discharged.	Deserted.	Died.	Sick.	Convalescent.	Total.	Months.	Officers.	Enlisted Men.	Total.	Number treated.	Deaths.	Cases.	Deaths.	
														September....	......	......	......	......	......	....	....	To the mean strength should have been added, for three months, a company of Pennsylvania Dragoons, consisting of 3 officers and 49 enlisted men.
														October........	......	......	......	......	......	....	....	
														November.....	38	984	1022	......	......	....	....	
														December.....	......	......	......	......	......	....	....	
														....	......	......	......	......	......	....	....	
														....	......	......	......	......	......	....	....	
—	—	—	1002	—	—	799	—	7	—	27	46	125	171	....	38	984	1022	1002	27	99·8	2·69	1 d'th to every 37th case of illness and wounds.

Discharges on Surgeon's Certificate, and Deaths.

Name.	Rank.	Regiment.	Company.	Disease.	Date of Discharge from service.	Date of Death.
Steward, Thomas	Private	36	G	Inntussuciptio		October 20, '61.
Tilton, Douglas	“	36	F	Febris Typhoides		October 20
Grudier, John	“	36	G	Febris Typhoides		October 23
Summers, John R	“	Pa. Dragoons		Febris Typhoides		October 28
Beckley, Edward	“	36	C	Febris Typhoides		November 2
Nicholson, James W.	Q. M. Sergeant	Pa. Dragoons		Febris Typhoides		November 7
Jones, James H	Corporal	Pa. Dragoons		Hepatitis chronica	November 11, 1861.	
Davis, Frederick	Private	36	A	Phthisis Pulmon	November 16	
Winchell, Chauncey	“	36	K	Febris Typhoides		November 9
Neibert, James M	“	36	I	Febris Typhoides		November 16
Walthers, James	“	36	B	Hernia		November 23
Holly, Charles	“	36	B	Febris Typhoides		November 28
Clark, Augustus	“	36	B	Febris Typhoides		November 28
Wolcott, Lewis	Sergeant	36	F	Febris Typhoides		December 1
Bradshaw, William	Private	36	C	Epilepsia		December 2
Foster, Warren C	“	36	C	Dislocatio femur	November 26	
Richardson, Edward	Corporal	36	I	Febris Typhoides		December 4
Wintersteen, Joshua	Private	36	H	Hernia inguinal	November 26	
Armstrong, Isaac	“	36	A	Typhoid Pneumonia		December 8
Bradfield, John	“	36	H	Typhoid Pneumonia		December 9
Corp, Joseph	“	36	G	Febris Typhoides		December 10
Pierce, Thomas	“	36	D	Febris Typhoides		December 11
Ewing, Thomas H	“	36	B	Febr. Typhoides cum Pneumonia		December 12

Discharges on Surgeon's Certificate, etc.—Continued.

Name.	Rank.	Regiment.	Company.	Disease.	Date of Discharge from service.	Date of Death.
Ross, Daniel Russel	Private	36	A	Typhus Fever		Dec'ber 12, '61.
Dood, James	"	36	I	Phthisis Pulmon	December 3, 1861	
Green, William M.	"	36	B	Epilepsia	December 3	
Pierce, David	"	36	B	Epilepsia	December 3	
Gates, William H.	"	36	E	Typhoid Pneumonia		December 14
White, James H.	"	36	B	Typhoid Pneumonia		December 24
Foster, Archibald	"	36	G	Febris Typhoides		December 25
Osborn, Samuel	"	36	E	Typhus Fever		December 29
Davis, O. Perry	"	36	I	Febris Typhoid. cum Pneumonia		December 30
McNeal, Dudley	"	36	I	Typhoid Pneumonia		December 31
Byers, William	"	36	H	Typhoid Fever	Died at Weston, Va.	Sept'ber 22, '61.

American and Foreign Intelligence.

Moral Insanity in relation to Criminal Acts. By I. PARIGOT, M.D., Late Commissioner in Lunacy and Chief Physician of Colony of Gheel, Belgium; Honorary Professor of the University of Brussels; Member of Several Academies and Learned Societies.

It is easy to say, *That man is crazy;* but it is not so to prove it. How can a simple affirmation or a medical certificate, without proofs that a man is insane, deprive him of his liberty?

There is no doubt, at least in Europe, and perhaps here, that if mental diseases had been accurately described—if physicians had not contented themselves, and magistrates been satisfied with a single line, assuming, *ex virtute officii*, that a man was to be shut up as insane—many errors, injustices and miseries would have been spared!

It is true an authentic demonstration is not always easy—who is infallible? At all events, when a physician gives his opinion in a court, relating to the life, honor and property of individuals, his office is of the highest character. The importance of his function must elevate his soul and mind above all private interest.

As we have said, it is difficult to say when spiritual causes have sufficiently acted upon our body to elicit insanity. Where is the line or boundary of sanity and madness in a corrupted conscience? Here again our only criterion is medical observation, with this difference, that we ought to be very cautious, and always avoid appearing to be under the influence of some secret motive. It is about the same for everybody concerning the moral cause of insanity. There is also a line we ought not to pass. Every man should take care of his weak side. Education should have, for one of these objects, to fortify our wills, in order to make up for gifts that we may want. Not only is this true, but, as the Scriptures say, the *spirit is the same, but gifts are different.* Let us suppose that a man of ordinary ability would, from the plough, begin and assiduously prosecute high and profound studies. (I have often seen such cases in rural schoolmasters attempting to study divinity.) Now that man will soon feel some premonitory symptoms of an over-exertion and fatigue of his intellectual powers. If he continues his foolish task, he will perhaps very soon say that some light from heaven has descended upon him, and turn a furious maniac.

The so-bitterly criticised theory of a most distinguished alienist, Dr. Moreau de Tours, who asserts that madness is often the result of an over-activity of the brain, is justified in this and many other causes. When that author affirms that if vital force accumulates in one organ, one of its results must be either a great energy of function or a lesion of that organ, he says something very true. It is in this sense that Dr. Moreau finds some affinity between genius and madness. His antagonist, M. Flourens, though a man of immense talent, is, I fear, a bad judge of the value of this theory, since the learned Perpetual Secretary of the Institute of France, amongst a great number of pamphlets on all sorts of subjects, has written a small compilation entitled *Essai physiologique sur la Folie*, which shows that he never gave much attention to that special subject of medicine.

As insanity cannot exist without a form of exterior disease, so bodily health cannot accompany and is incompatible with a mental infirmity. Symptoms of diastrephia are numerous, and moral insanity or diastrephia presents several phases or stadia during which the following symptoms may be observed:

Generally patients are different in manners, ideas, feelings, conduct, and even language, from what they were before. No delirium or delusion is sometimes perceptible. In some cases bad habits, customs, or indulgencies, are more frequent and become notorious. After a certain time elapses since the premonitory symptoms, patients become incapable of serious occupations. Their will is impaired, their power of control lost, and their instincts let loose; there appear irresistible or unaccountable eccentricities and whims. It is in this period that sometimes delusions or a mono-delirium appears, but it is rare.

During that phase it has been noticed that some patients take pleasure in telling stories, intriguing and deceiving people; otherwise they are not loquacious; but then the moral infirmity augments. There exist often hardness of heart, selfishness, and bad dispositions. From that state they become profoundly melancholic.

If the character of the disease still augments, immortality accompanies the propensity of doing harm or committing some atrocious crime. The patient is dull, and appears indifferent, though secretly he has a delight of preparing some evil action. When crimes are committed, their execution is particularly remarkable. When the patient is detected, or when he offers himself, he admits readily the facts, however scandalous or horrible they may be. Generally there is a complete absence of grief or remorse.

In all these cases, letters, memoirs, designs, etc., are of the greatest value to ascertain the mental condition of the writer. Their general feature shows cunning, complaints, and false statements.

Diastrephia may have a milder course, and present a remittent series of fits. Some take place several times in the day, or in the week. I have seen a patient who remained sometimes one whole year free from attacks. During their lucid intervals they offer no signs of insanity, except some disturbances in their general health; but in the attack patients say they suffer a great deal in the head.

Some patients, and especially dipsomaniacs, employ much art in preventing people from remonstrating. For instance, they will feel offended—being gentlemen or gentlewomen—to be told that they were found dead drunk in some sewer of a street, etc. Their infirmity makes them powerless against a subsequent impulse, and they fall to the lowest scale of degradation. Some patients, after a fit, regret what they have done, and sometimes beg to be taken care of for the future.

No medical man denies to-day the solidarity of *innervation, sanguification* and *nutrition*, and there is certainly an intimate relation of these functions with those of the brain. For instance, any long process of enervation, produced by solitary habits, will soon operate a change in the mental organism, just as any deviation of nutrition will produce a morbid diathesis.

Who would maintain that a mental lesion can exist exclusively of any morbid reaction of the body? We have never met with such an exception. If it was so, diastrephic cases might remain the subject of interminable discussion between lawyers, philosophers and physicians. Our conviction on this subject may perhaps make us appear to overrate the value of physical symptoms; but we must declare that it is their coexistence with mental aberration that gives them the advantages upon which we insist.

Now what we say of diastrephia is applicable to cases of simulation of insanity. Let the part of a feigner be played as well as possible, emotions would be difficult to imitate; but somatical symptoms would be still more difficult or impossible to imitate. Supposing even that a simulator could impose upon a skillful observer, the result of his game would very probably be *real* insanity—a curious and forgotten form of insanity to which I shall afterwards refer. For the present I wish to state, that it is a direct proof of the power of ideas on our bodily structure.

Among the physical signs which I am going to mention, one of the most important is the existence of a morbid action on the brain. Pain is reported to exist in different parts of the head, and other bodily symptoms depend often upon a reaction of the nervous centres. They present various features, the *ensemble* of which strikes at first sight the practical observer.

According to the excellent observation of Dr. Billod, in the tenth volume of the *Annales Medico-Physiologiques*, there exists a curious interruption of volition in the muscular system. In spite of the patient his limbs cannot obey his purposes. It is just the opposite of convulsive muscular action which takes place in various diseases. The cerebro-spinal system is disordered, so are the functions of the sympathetic. Irregular innervation of arteries and veins produces latent disorders in various parts, of which patients rarely complain. There is an irregular visceral and capillary circulation which affects nutrition and several of its functions. Patients are emaciated, they feel a general heaviness over the whole body. Their complexion is sallow, their skin harsh, and its emanation has a peculiar smell. Very often they are feverish, the heat of the skin is increased, the pulse frequent, the tongue furred, and the bowels almost permanently confined. Their rest is troubled during the night; they want to lie down often during the day. In cases connected with melancholy there is a deficient sensibility of the peripherical ramification of nerves sometimes producing anæsthesia. Generally an expression of pain is apparent. The physiognomy is dull, and suggestive of indifference and selfishness. The face is pallid; the stare is not vacant but uncertain. Sometimes the eyes wander about, or there exists a tremulous movement of both eyes when the patient fixes them on any one. Squinting has been remarked, but it is rare. Sometimes the pupils are irregularly contracted, which is a bad sign. When there is irritation of the brain the pupils are contracted. They are dilated in the congestive state, without irritation of that organ. The non-contraction of pupils indicates a loss of sensibility of the whole nervous system. Generally there is a peculiar look in diastrephia, indicating shrewdness and a disposition to do mischief. These signs are more apparent when fits are going to take place.

In this disease we have seldom seen a case without dyspepsia; there are gastralgic pains and a voracious appetite. Palpitation of the heart very often accompanies that disposition, and augments the sufferings of the patient. Complications may arise: thus uterine affections are the source of moral disturbances. Some arise from essential and local diseases, as gout and rheumatism.

Patients of a nervopathic disposition are often perfect hypochondriacs. Some, in spite of a suicidal propensity, are constantly occupied with their health and comfort. They ask continually for medicines, and are afraid of doing something wrong concerning some trifle, but, by a sudden impulse, they will commit suicide. When interrogated or asked why they committed certain deeds, some can give no reason or account for it; it was *an impulse, a desire,* etc. Some are very cunning in avoiding explanations.

We have seen a lunatic who wanted to be under the guard of somebody, even of a child, lest he should do some harm. That man, who had resided several years in the village of Gheel, in Belgium, was boarded in the family of a small farmer, and had never committed the slightest offense, although under the influence of diastrephia. I often visited him; he was sometimes alone, or under the guard of children—the parents being at work in the adjoining fields. Some people of his birthplace having told the burgomaster of his village that the patient was cured, since no insanity could be found in his *talking*, a medical report was required, and, notwithstanding its conclusions, the administrative authority set him at liberty. He went home; but the man, let loose to his propensity to murder, killed his wife, in order, as he declared, to *cook her feet,* and, being disturbed in his horrible meal, he also killed an old man who had accidentally called at his house.

It is certainly remarkable that in the free-air system insane people, under the moral restraint of knowing that they are watched and observed, are less tempted to yield to morbid impulses than otherwise. In a population of a thousand free lunatics in a village, the great number of moral insanity cases is quite sufficient to guarantee the practicability of the system.

Since authors have reported that lunatics experienced, in cases of fits, a sensation of burning, that, when it arrived at the head, caused a momentaneous fever. There is, and I must notice it, much affinity between diastrephia and epilepsy—they pass also into each other, as in the following case:

A young man had suffered eight years of epileptic fits. During two years the fire was within him, but instead he had fits of diastrephia. As soon as he felt the attack he used to cry, *Dear mother, be off, or I must kill you!*

Disastrephia, if cured in its early period, ends generally in dementia or general paralysis. This disease is frequent; but authors describe it under another denomination. For instance, all the cases died in the manual of Bucknill and Tuke, from p. 178 to 220, under the head of *Emotional Insanity*, are all, except a case of erotomania, pure diastrephic cases.

All the symptoms that we have enumerated are not seen at first sight; they require time and leisure to be detected. It is not to be expected that a physician, suddenly called into a court of justice, would be able to ascertain their presence in a first examination. Days, and sometimes months, may be necessary to investigate doubtful and difficult cases. The necessity of a fixed rule by which medical officers should be under the obligation to specify the moral and physiological signs of insanity in their affidavits is evident The numberless difficulties arising from summary legal reports, and the dangers resulting from it to individual liberty and property, threaten every one.

In civil lawsuits concerning the suspension of civil rights, the validity of the public transactions of certain persons, the state of mind of persons having made wills and donations, etc., it is often necessary to examine certificates concerning past periods of the life of a person; but if these certificates or documents are defective or incomplete, on account of some general statement giving no details or description, they can be of no use. In criminal prosecutions it is sometimes necessary to know whether insanity existed at a certain time—its nature and its form—sometimes useful documents might be found concerning the parents and ancestors or adoptors of an accused party. One difficult point remains to be elucidated concerning incipient cases of diastrephia, or rather concerning the period of its prodroms. The question is this—When ought vice and immorality to be considered the proximate causes and motive of a reprehensible act? And when ought it to be considered as the result of a diseased brain? We would propose that, if pathological symptoms are not evident, if, at the same time, psychological signs are doubtful, on account of the identity of probable cause and of its results, no medical man should give his evidence in favor of insanity. And the reason is obvious. In a sort of intermediate state we have no right to decide the question.

In the course of this paper we have tried to keep clear of a confusion about the unsoundness of moral sense, widely different from that unsoundness of mind which is the result of a pathological condition of the brain. Physicians have no wish to impose ambiguities by which juries or public opinion should be bewildered. If they differ sometimes in opinion, it depends entirely upon the nature of doubtful cases.

On my arrival at Sing-Sing, I was kindly lent a book on the case of a late broker, Charles Huntington, and through the influence of a most distinguished and deserving physician, Dr. Fisher, residing there, was introduced to the convict in the State Prison.

While reading the case it appeared to me that either the subject had been a lunatic, afflicted with a special deficiency of moral sense, with great instinctive cunning and ability to deceive, or that he was a lunatic under the influence of some kind of diastrephia. After my visit to the prison I came to the conclusion that the prisoner was neither the one nor the other, although many facts showed that he had been in the process of becoming really insane.

After a few words were exchanged, the convict himself told me that in his opinion he had never been properly insane, though he had felt something wrong in his head until two years since. Up to that period he would have counterfeited any man's signature. He said his habit of forging had come to such a degree that to get *his own money* out of a bank he would have rather employed a forged paper!

Being, of course, a perfect stranger to all parties who appeared in this trial, the opinion I venture is free from prejudice and only liable to errors of my own.

It appears that in the State of New York, it is a jury that decides upon cases when the plea of insanity is brought forward. The law of the State, as explained in the case of Huntington, does not admit moral insanity as an excuse for responsibility. Partial insanity or monomania would not absolve the party unless it wholly deprived the patient of the power to distinguish right from wrong! We have already objected to such absurd worn-out jurisprudence—more perhaps than 600 years old—in England. But whatever the law may be, by another mistake the jury is omnipotent in scientific difficulties, because by its verdict the jury may either absolve without explanation or condemn without the slightest light on the scientific question. Now, I believe that the jury was accidentally right in finding Huntington guilty, although some doubts might have been entertained on his real state of mind.

In this point of the trial I am convinced of the good reasons brought forward by the two medical witnesses to establish their opinion. I do not partake entirely of it, but I acknowledge their sincerity and scientific ground. These physicians have, I may say, to the honor of our profession, shown their profound knowledge and aptitude to discuss difficult points on a medico-psychological specialty; but the whole of their discussion with clever jurists shows how much physical symptoms were wanted to confirm their opinion. It is even curious to remark that their opponent's arguments were based on this very want of symptomatic evidence. However, the whole appearance of the case leads to the admission of a prodromic stage of diastrephia.

The conduct of Huntington from a boy up to the time of his trial bears the characteristic of some morbid diathesis and hereditary taint of insanity. His diseases, when a child, might have had a depressive influence on his conscience; and later, when a man, his temperament and propensities could hardly be checked by mixing with speculators in stock-jobbing. He lived alternately in wealth and poverty, extravagance and want. In prison he was found indifferent to his situation, although accused of a capital offence! His appreciation was certainly defective. Reading the case, one might ask whether he was not stimulating insanity? The prisoner maintained that he never intended injuring people! Still he found in forgeries the means of gathering enormous sums of money, of which he spent a great deal in self-gratification! Huntington said that it was a desire that came over him; that nothing could have prevented him from forging false paper, and that it was only two years since that he felt better, could sleep, and could say that he would not do it again.

The learned counsel for his defense explained the curious circumstance of the carelessness of his client, who had made no arrangements to escape or prevent his arrest.

Then the able advocate put several questions to the physician. 1st, Whether in their opinion, the defendant was sane or insane when the forgeries were committed? 2d, If insane, what was the nature and character of that insanity?

It was answered that it might be possible that all might take place as the result of almost unparalleled recklessness, but that from personal examination, and also from the testimony heard, it might be said that those actions were the actions of an insane man.

The answer appears unsatisfactory because it admits almost the possibility of recklessness, and does not point out the morbid nature of the acts. The testimonies on Huntington's conduct could not supply the wanted symptoms of an actual state of insanity. The mental state of the prisoner was the first and principal object of demonstration; his actions were naturally the consequence of his mental disposition.

Cross-examined by the advocate of the prosecution, one of the medical gentlemen was asked this question—

Upon what the prisoner said to you, and from what you judged from his appearance, would you pronounce him of unsound mind, from your examination and from his appearance?

The question is direct, and points the vital knot of the case. Besides, this question shuts all issues, by repeating that the source of information must be personal examination of the prisoner.

The answer was—not by his appearance, but from my examination of him I should.

Now by this answer physical symptoms were almost abandoned as of no value. However, the same physician said further, that the expression of the face of Huntington was not that of a villian but that of an insane man.

This general statement might have been good, if followed by a description which might have convinced the jury and court. Now, the advocate for the prosecution very adroitly asked the doctor to explain, what was the disease of his physical organization which prevented him from resisting the tendency to commit forgery? It was a quible; but the lawyer knew the weak side of the jury, and was certain of being victorious if he could prevent the physician from giving a satisfactory answer. The physician honestly said that he could not give the pathological anatomy of the case! The advocate insisted upon knowing the relation of a physical lesion of the brain to a moral perversity, and repeated the question, What urges the patient to forge paper? This insistance was very likely a necessity of the situation, because the learned lawyer would not have purposely laid a sort of trap for his respected and intimate friend, as he called the doctor in his exordium. I believe that such an unqualified question might have misled a less capable and learned physician to invent some new name of special disease having for its characteristic to *forge paper to the amount of half a million of dollars.* The question was ridiculous and improper, because it had nothing specially to do with the trial, as being a question on primary casualty in our moral nature, and a *modus operandi* of anatomy.

Another physician, also a learned professor in a medical school, explained with great accuracy why he did not believe in the existence of monomania. He thought that Huntington was insane because his intellectual and moral nature, as well as his propensities, were diseased. The honorable witness stated, that in this case no delusion nor hallucination existed, but only *moral insanity.* He said that Huntington in his moral obliquity, would, perhaps, in the West, have committed criminal acts attended by violence; but that having *satisfied himself* that Huntington was insane, he thought it unsafe to say or fortell what an insane person might be inclined to do.

I sincerely regret that this witness did not add objective proofs to his own convictions. Although the verdict was, I believe, a just and a right one, will it not appear injudicious that a jury of laymen should have to appreciate and judge a medical discussion, led by clever but artful gentlemen of the bar? With reference to the knot offered to the jury to untie, I imagine that the honorable jurors may have very well said among themselves that balancing the moral account of the broker, and finding him guilty, his state of mind had little to do with their decision.

I conclude this paper by the following propositions:

1. That the disease called moral insanity is but an affection of

the faculty of violation and instinct, attended by physiological symptoms.

2. That the name of moral insanity is defective, because it bears no relation to the cause, symptoms, and results of that disease; and that it misleads the opinion of the bar concerning crimes committed under its influence.

3. That the laws and rules concerning insanity, relating to civil and criminal cases, ought to be put in accordance with the actual state of medical science.

4. That no person ought to be considered as being insane if physical and mental signs cannot be traced and ascertained.

5. That a reform concerning medical certificates is necessary to insure regularity in obtaining from courts or judges orders to detain a person as insane. That no such document be admitted unless containing, 1st, All the moral and physical symptoms of the case; 2d, The diagnosis and prognosis of the disease.

Now, until a reform be made, we should have license to say to the legislators and jurists of this and other countries—*Si habetis corpus, nos habemus animam.*—*Medical Times.*

SING-SING, Oct. 1861.

Notes on some of the Chemical Reactions of Corrosive Sublimate.

By T. G. WORMLEY, M.D.

(From the London Chemical News.)

The solutions of corrosive sublimate used in the following experiments were made by dissolving the pure salt in water. A small drop of a saturated solution of the reagent was applied by means of a pipettee to a *grain measure* of the corrosive sublimate solution contained in a watch glass, or upon a glass slide.

The amount of corrosive sublimate operated upon will frequently be stated in the form of a fraction, it always being understood to imply the fractional part of a grain of the salt dissolved in one grain of water.

1. POTASH.

1. $\frac{1}{100}$th, grain of corrosive sublimate gives, with a small drop of a strong solution of potash, an immediate bright yellow amorphous precipitate, insoluble in excess. The precipitate is rather copious.

2. $\frac{1}{500}$th, gives no immediate precipitate; after standing some little time there is a slight cloudiness.

2. AMMONIA.

1. $\frac{1}{100}$th, gives a good dirty white flocculent precipitate, insoluble in excess of the reagent. If the mercury solution be exposed to the vapor of ammonia it gives the same reaction.

2. $\frac{1}{1000}$th, a good bluish white amorphous precipitate.

3. $\frac{1}{2500}$th, gives a pretty good precipitate.

4. $\frac{1}{5000}$th, a quite satisfactory reaction, by either ammonia or the vapor.
5. $\frac{1}{10000}$th, gives a perceptible cloudiness.

3. CARBONATE OF POTASH.

1. $\frac{1}{100}$th, if a small quantity of the reagent is added to the mercury solution it gives a yellowish, or reddish yellow, precipitate; when an excess of reagent is used, the precipitate is of a brick red color.
2. $\frac{1}{500}$th, only a slight cloudiness.

4. IODIDE OF POTASSIUM.

1. $\frac{1}{100}$th, gives an immediate bright scarlet amorphous precipitate, which is readily soluble in excess of the reagent, or the mercury solution.
2. $\frac{1}{500}$th, a yellow-red precipitate.
3. $\frac{1}{1000}$th, gives a yellowish precipitate.
4. $\frac{1}{2500}$th, by using a very small quantity of reagent a pretty good and permanent yellow precipitate.
5. $\frac{1}{5000}$th, this quantity gave no satisfactory indication in a number of cases in which the least possible quantity of reagent was used.

The least visible quantity of corrosive sublimate in the solid state introduced into a solution of iodide of potassium becomes immediately yellow, changing to scarlet. When a solution of corrosive sublimate is evaporated to dryness, and the residue touched with a small drop of iodide of potassium solution :—

1. $\frac{1}{100}$th grain, the deposit assumes a fine scarlet color.
2. $\frac{1}{1000}$th grain, much the same as 1.
3. $\frac{1}{10000}$th, the deposit assumes a distinct yellow color, and soon dissolves.

5. FERROCYANIDE OF POTASSIUM.

1. $\frac{1}{100}$th, a copious dirty white amorphous precipitate, soluble in excess.
2. $\frac{1}{1000}$th, a pretty good precipitate, readily soluble in excess.
3. $\frac{1}{2500}$th, difficult to obtain a slight trace.

6. FERRICYANIDE OF POTASSIUM.

1. $\frac{1}{100}$th, a good greenish yellow amorphous precipitate, insoluble in excess.
2. $\frac{1}{1000}$th, much like 1.
3. $\frac{1}{2500}$th, quite a good greenish precipitate.
4. $\frac{1}{5000}$th, a just perceptible cloudiness.

7. CHROMATE OF POTASH.

1. $\frac{1}{100}$th, immediately a rather good greenish yellow flocculent precipitate.
2. $\frac{1}{500}$th, a distinct cloudiness.

Bichromate of potash gives no precipitate with a $\frac{1}{100}$th solution of corrosive sublimate.

8. Nitrate of Silver.

This test is for the purpose of detecting the chlorine of the corrosive sublimate.

1. $\frac{1}{100}$th, grain of corrosive sublimate gives a copious curdy white precipitate, which partly dissolves in excess of ammonia, and is soon replaced by a rather copious partly glanular precipitate.

2. $\frac{1}{1000}$th, a bluish white, soon changing to a white precipitate, soluble, with difficulty, in ammonia, but soon replaced by a dirty white partly granular precipitate.

3. $\frac{1}{10000}$th, a rather abundant bluish white precipitate, readily soluble in ammonia, and soon replaced as in 2.

4. $\frac{1}{40000}$th, a quite good precipitate.

5. $\frac{1}{100000}$th, a very satisfactory reaction.

6. $\frac{1}{500000}$th, a very perceptible opalescence, which, after a little time, becomes very distinct.

7. $\frac{1}{1000000}$th, gives a just perceptible cloudiness.

The last mentioned quantity of corrosive sublimate would contain only $\frac{1}{3800000}$th of a grain of chlorine. This result agrees closely with that obtained by the reagent with chlorine when in combination with ammonium, as given in Gmelin's *Handbook*, vol. ii. p. 355, in which a solution of sal-ammoniac containing one part of chlorine in 3,200,000 parts of water gave with nitrate of silver "a barely perceptible cloud."

9. Chloride of Tin.

1. $\frac{1}{100}$th, gives a light grey, then dark precipitate, which is rather copious.
2. $\frac{1}{1000}$th, much like 1.
3. $\frac{1}{5000}$th, a quite good deposit.
4. $\frac{1}{10000}$th, a prety fair indication.
5. $\frac{1}{20000}$th, gives a distinct reaction.

10. Hydrosulphuric Acid.

The solutions of corrosive sublimate were acidified with hydrochloric acid, and a stream of washed sulphuretted hydrogen passed into ten grains of the mercury solution.

1. $\frac{1}{100}$th, when the solution holds this proportion of its weight of corrosive sublimate, it gives an immediate brown, which soon changes to a dark brown, and ultimately to a copious black precipitate.

2. $\frac{1}{1000}$th, a yellow brown, brown, then rather copious black precipitate.

3. $\frac{1}{10000}$th, the solution immediately becomes brownish, then small brownish flakes, and, after a little time, a good brownish precipitate.

4. $\frac{1}{20000}$th, the solution immediately becomes yellowish, and, in a few minutes, very small brownish flakes appear, which after standing for sometime subside, and form a distinct deposit.

5. $\frac{1}{40000}$th, very soon the solution becomes turbid, and after standing some time a deposit is just perceptible; if viewed with a lens it is quite evident.

6. $\frac{1}{100000}$th, no indication after several hours.

11. COPPER TEST.

This test consists in introducing into the corrosive sublimate soluction a small slip of clean copper foil, which will cause a decomposition of the mercury compound, with the deposition of metalic mercury upon the copper. The delicacy of the test is much improved by acidulating the mercury solution with hydrochloric acid, and also by heating the acidulated solution. In the following experiments a grain measure of the mercury solution was placed in a watch glass, and acidified with hydrochloric acid; the slip of copper being introduced into the solution, it was heated over a small flame of a spirit lamp.

1. $\frac{1}{100}$th, grain of corrosive sublimate will impart to the copper an immediate silvery lustre, which soon becomes grey, and then dark grey; this reaction takes place equally well without the hydrochloric acid, or heat. The copper should not be less than about $\frac{1}{5} \times \frac{1}{15}$ inch, otherwise some of the mercury will become detached. After allowing the copper to remain in the solution for several minutes, it is to be removed and carefully washed with a small stream of water from a wash-bottle, or with water containing a little ammonia; it is then gently pressed between folds of filtering paper until perfectly dry. It is now placed in a small and perfectly clean and dry reduction tube; heat being applied to the closed end, the mercury will volatilise and condense a little distance above the point heated, in the form of a mist-like deposit, very readily discernible by the naked eye. If the sublimate be examined with a low power of the microscope, it will be seen to consist of innumerable spherical globules, which are opaque by transmitted light, and present a very bright silvery lustre under incident light. The tube should only be heated in the part which contains the copper; every time the mercury is volatilised it is attended with more or less loss.

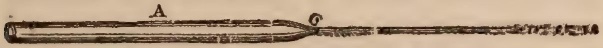
2. $\frac{1}{1000}$th, the copper immediately presents a silvery appearance, and in a little time becomes grey. This takes place about equally well without heat. Without either acid or heat, the deposit begins in a very little time; by heat alone, immediately. The copper when heated in a reduction tube gives a sublimate very perceptible to the naked eye.

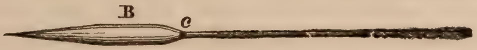
3. $\frac{1}{10000}$th, when acidified and heated with a slip of copper of about $\frac{1}{10} \times \frac{1}{20}$ inch, the deposite is immediately perceptible, and very soon very satisfactory. Without either acid or heat the deposit takes place very slowly. If the copper be heated in a narrow tube, it gives a sublimate quite perceptible to the eye.

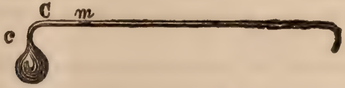
When deposits much smaller than the last given, are heated in an ordinary reduction tube the results are not uniform; depending upon the fact that the sublimate forms very small globules, which are distributed over a large space, and part of it seems to entirely escape the condensation within the tube.

Very uniform results may be obtained by taking a small clean tube of about $\frac{1}{10}$ inch in diameter, and drawing it out into a fine capillary point of from $\frac{1}{30}$ to $\frac{1}{50}$ inch in thickness. An exact impression of the tube used in the following experiment is given in the accompanying plate, fig. A.

The copper is introduced through the wider portion of the tube to the point *c*, and then heat applied to the outer end, and slowly brought to within a little distance of the copper; when the tube is soft it is drawn off as shown in fig. B. At the same time a second reduction tube can be formed. The neck of the tube is now moistened with water, or wrapt with wet cotton, and then the blow-pipe flame applied to the closed extremity, which is slowly fused into a bead, until the heat arrives at the copper, as shown in fig. C. The capillary end may now be fused shut. When wiped and examined with the microscope, the mercury deposit will be found at about the point *m*, forming a very narrow ring of well defined globules. These tubes may be reserved for future examination.







4. $\frac{1}{20000}$th, the acidulated solution may be heated several times in the watch glass, and as the fluid evaporates its place should be supplied with water. Care must be taken that the copper does not become dry. In a very little time the copper will present a silvery appearance, which soon changes to a very decided and satisfactory grey deposit. When heated in a tube it yields a sublimate perceptible to the eye, and which when examined with an amplification of about 75 diameters will be found to consist of a ring of well defined globules. In a number of cases over 100 globules, varying in size from $\frac{1}{1000}$ to $\frac{1}{10000}$ inch were counted, many of them being about $\frac{1}{2333}$ inch in diameter.

5. $\frac{1}{60000}$th, treated as stated in 4, the copper being $\frac{1}{20} \times \frac{1}{40}$ inch, will after some time impart a quite distinct lustre to the copper, which, when heated in a tube, will present under the microscope, a fine sublimate of globules much like 4.

6. $\frac{1}{100000}$th, the copper receives a decided metallic lustre or tint; when heated in a tube it always gives a very satisfactory result. In some few cases over 100 globules were perceived, several of which measured $\frac{1}{1750}$ inch, the greater number, however, were quite small. None less than $\frac{1}{10000}$ inch were counted. In a majority of cases about fifty well defined and satisfactory globules were counted, the most of which were in the field of a $\frac{2}{3}$ inch objective. So far as the evidence of mercury is concerned, this quantity of corrosive sublimate will furuish just as satisfactory results as $\frac{1}{1000}$ grain, the only difference being in quantity.

7. $\frac{1}{500000}$th, the copper shows but a slight change. When heated in a tube as many as twenty pretty good sized globules were counted, the largest of which measured $\frac{1}{3000}$ inch, the most of them, however, varied from $\frac{1}{5000}$ to $\frac{1}{10000}$ inch. In a majarity of cases only from five to ten globules measuring more than $\frac{1}{5000}$ inch were obtained. In this and the previous case many small points were observed, but they were too small to decide upon with certainty; in no case was any counted measuring less than $\frac{1}{10000}$ inch.

Amplification will assist somewhat in the determination of the mercury globules, but not so much as might be expected. When an amplification of 75 is used, a globule measuring $\frac{1}{3000}$ inch is perfectly satisfactory, such a globule, if a perfect sphere, would weigh $\frac{1}{15000000}$ grain, when of $\frac{1}{5000}$ inch, they are small but distinct and satisfactory, such a globule would weigh $\frac{1}{69000000}$ grain. When of $\frac{1}{7000}$ inch, and associated with larger ones, they are still rather satisfactory; weight $\frac{1}{190000000}$ grain. When of $\frac{1}{10000}$ inch they appear as mere opaque points, and are too small to be decided upon. When under an amplification of 250 or 300 a globule of $\frac{1}{7000}$ inch is very satisfactory; when of $\frac{1}{10000}$ inch it may be made out with considerable certainty, an amplification of 400 or 500 does not improve it much; such a globule would weigh $\frac{1}{566000000}$ grain.

On account of the curvature and thickness of the glass tube, the higher powers of the microscope cannot be applied, a $\frac{1}{5}$ objective is about as high as can be used with satisfaction. When upon a flat surface, much smaller globules than any of the above can readily be seen; with a $\frac{1}{8}$ objective an "artificial star" measuring only $\frac{1}{25000}$ inch, will present the characters of sphericity and opacity, and will reflect incident light; but it must be remembered that foreign matter will sometimes present the same properties, or at least so much like the mercury globule as to make it unsafe to draw any decided conclusion. It would therefore seem that a globule less than $\frac{1}{8000}$ or $\frac{1}{10000}$ inch, could not be decided upon with certainty; the test however, is so extremely delicate, thut there is no need of torturing it even to this extreme.

It is not intended to imply that $\frac{1}{500000000}$ grain of mercury can be *recovered* by this test, but only that that amount will give satisfactory evidence under the microscope when furnished by the test. The above experiments would seem to indicate that $\frac{1}{500000}$

grain of corrosive sublimate was about the least quantity that would furnish satisfactory evidence of the presence of mercury. There is a tendency on the part of some chemists to arrive at the conclusion that the amount of a substance that can be indicated by a test is the amount that can be recovered. This is a gross fallacy.

In the above cases it should be remembered that the amount of mercury present in the corrosive sublimate was as 100 is to 135.5.

Therefore $\frac{1}{500000}$ grain of corrosive sublimate would represent only $\frac{1}{675000}$ grain of metallic mercury.

Most tests are dependent in their reaction, not upon the absolute quantity of a substance present, but upon the degree of dilution. In the copper test for mercury, however, it is a matter of absolute quantity more than degree of dilution: for 1, 10 grains of a $\frac{1}{100000}$ solution of corrosive sublimate gives nearly as good reactions as 1 grain of a $\frac{1}{10000}$ solution; 2, 10 grains of a $\frac{1}{500000}$ solution, nearly the same as 1 grain of a $\frac{1}{50000}$ solution. It, however, requires a longer time for the deposition to take place.

The smallest visible quantity of corrosive sublimate when mixed with a small quantity of well calcined carbonate of soda, and heated in a small reduction tube, will give a copious sublimate of mercury globules.

12. EXTRACTION OF CORROSIVE SUBLIMATE FROM WATER BY CHLOROFORM AND ETHER.

1. If 1 grain of corrosive sublimate be dissolved in 100 grains of water, and then agitated for several minutes with an equal volume of chloroform, the chloroform will extract about .04 grains of the mercury compound.

2. Ether, under the same circumstances, will extract .67 grains of the corrosive sublimate.

COLUMBUS, Ohio.

On the Treatment of Diarrhœa by Nitric Acid and Opium. By Dr. PATRICK J. HYNES, Nottingham.

[Dr. Hynes recommends an old favorite remedy, which is sometimes forgotten, and we therefore think it well to let the reader see it again. He says :]

About ten years since, diarrhœa and dysentery prevailed rather extensively in this locality, and emboldened by the successful treatment of these diseases from the remedy I was in the habit of employing, I ventured to bring it, through the medium of the public journals, into notice, and since that time I have been repeatedly assured by many gentlemen who adopted it, that my opinion of its efficacy has been by no means exaggerated. I believe I am indebted to the work of Dr. Abercrombie "On Diseases of the Abdominal Viscera," for the formula I am in the habit of employing; but as I write from memory, and have not an opportunity of confirming my opinion on this point by a direct reference to that excellent work, I do not wish to deprive any other author of whatever merit may be found to attach to its introduction as a remedy for those diseases.

I may observe that during the last four or five weeks diarrhœa has been very prevalent in this locality, and I do not overstate when I assert that I have used it in more than a hundred cases already, and always with almost instantaneous benefit. The formula that I generally employ is as follows: Compound infusion of gentian, eight ounces; tincture of opium, a drachm to a drachm and a half; nitric acid, twenty minims; one ounce to be taken after every liquid stool or painful alvine evacuation. A mustard plaster applied to the epigastrium, and drinking sparingly of ice-cold mint-tea, relieve the sickness and thirst that frequently accompany the severer form of these diseases. I have found the remedy equally beneficial in some rather intractable forms of dysentery. I would strongly urge upon gentlemen, who meet with dysenteric cases, to give it a trial, as I feel satisfied they will find it a very powerful curative agent in their hands.

In an old number of the "Medical and Physical Journal," from which several years since I made an extract, I find the following from a Mr. Hope of Chatham. He says:

"The first occasion of its use was remarkable. A young man, of sobriety and temperance, had suffered long with dysentery, and had been attended by a friend of mine for some time, who recommended those remedies that high authority and experience pointed out for relief; but finding no advantage, he sent for me, expecting more might be done. Nothing, however, recommended was successful, and, as I could but go over the same ground, no prospect of relief appeared; indeed his death was daily expected. At this time a woman who lived with him was attacked with dysentery, with extreme thirst. An acid occurred to me; but fearing it might produce unpleasant effects, opium was added:—Nitric acid, two drams; opium, two grains; water, two ounces; a spoonful to be taken in any vehicle three or four times daily. The effect produced was so great that my dying patient, unknown to me, begged to partake with her, and when I saw him next morning, which to my great surprise was with a cheerful countenance, he told me if ever I had a patient ill with his complaint, I should never fail to send the drops I had sent for the woman, for they had relieved his complaint at the first dose, and he was sure he should mend now, for they had saved his life this time. This was the only medicine he took, and in a few days he was able to walk about his room. In a third case I tried the acid without the opium, but it did not succeed. I then united them, and it effected immediate releif. I was still unwilling to persuade myself into the belief of its being a specific remedy, until a case of so extraordinary a nature occurred as to compel me to decide unequivocally in its favor. A young lad, sixteen years of age, fell over a dredging-boat into the water in the month of July last. Indisposition succeeded, but to what degree I could not determine, as another practitioner was at first called in to his assistance. Finding no relief, they applied to me, requesting my attendance. This was near a month after the accident. The remedies I applied failed in their efficacy. His friends, despairing of relief, requested me not to trouble myself to attend him any more (they lived six miles from me), saying he must be left to his fate, being assured a day or two more would finish the scene. At this time I recommended the anodyne, and with great difficulty it was that they could be persuaded to give it a trial. Twenty-four hours had not elapsed before he began to find relief, so that in four hours he left off the remedy. The disease returned; reapplication of the drops again removed it, and in a very short space of time, without any other medicine intervening, he became as hearty as ever he had been. The manifest advantage of the medicine was recognized by the parents; nor did they spare unjust reflections that I did not employ it before."

I am unwilling to theorize upon the *methodus medendi* of what I believe to be the principal agent in the above formula; yet I cannot help thinking that the nitric acid possesses some disinfecting agency, no less than an astringent efficacy, over autumnal diseases. "The fumes of nitric acid are believed to be efficacious," says the late Dr. Montgomery, "in destroying the effluvia of typhus and other febrile diseases." Diluted with water, so as to form an acidulous drink, Dr. Duncan of Edinburgh used to employ it in the low fevers that prevailed in the suburbs of that town. But independent of its chemical action over animal effluvia, it appears to me to act as a direct astringent in all diseases of the mucous membrane. Thus in purulent ophthalmia, what remedy is so efficious as nitrate of silver in solution? In fact, in all mucous discharges it is almost the sole remedy upon which the surgeon depends; and of course the nitric acid is the chief agent in this valuable therapeutic. I am in the habit of employing a formula of a nearly similar kind as a topical application, but with double the amount of acid, in cynanche and diphtheria; and I can speak very strongly upon its beneficial effects. In broken-down constitutions impaired by mercury, by syphillis or other irregularities, the above remedy will be found frequently valuable; and given in combination with taraxacum, it will prove very servicable in sluggish conditions of the liver. I am in the habit of employing it with very considerable advantage in the diarrhœa of infants, and, combined with the muriated tincture of iron, in tabes mesenterica. I may further state that I have given the other acids, singly and in combination, the full benefit of a fair trial in all the above forms of disease; and, without any prepossession or prejudice, my experience enables me to give a decided preference to the claims of nitric acid in combination with opium, as a very superior therapeutic remedy. I have not had an opportunity of making trial of it in the very severe forms of epidemic cholera, although I have had formerly ample opportunities of treating that disease. I have, however, many years ago, tried extensively, *inter alia*, the plan of treatment recommended by Dr. Toulmin of Brighton, thus anticipating his views (see the "Lancet" of August 17th), which certainly look well in print, particularly as they are eloquently, indeed elegantly, introduced; but when weighed in the balances they will be found wanting.—*Lancet, Aug.* 31, 1861, *p.* 204.

On Anasarca. By Dr. Charles Witt, Spring Gardens, London.

The following method of relieving that well-known result of internal disease—anasarca, may prove of interest to the profession. It is, to say the least, well worth a careful inquiry, whether something cannot be done, however temporarily, to effect the removal of the water, and thus to save our patients much of the alarm and annoyance of this addition to their sufferings.

Let me premise, that there appears to be nothing in anasarca partaking of the character of a curative effort of Nature, it is usually the consequence of a mechanical obstruction to the circulation, and experience has not yet shown whether there is any valid objection to such consequence. Medicines have been plentifully administered with this object, but, it is well known with no satisfactory results; and I venture to hope, therefore, that in the simple process here submitted means of relief will be found. By an easy and painless operation (founded on the structure of the tissue where the mischief lies) the whole of the serum can be quickly discharged. The way in which this may be accomplished will be best shown by detailing a case and its treatment:

A lady in Northamptonshire had long suffered from anasarca, the result of heart-disease. From the chest downwards the body was so much distended with fluid that for many months she had been unable to lie down, but was obliged to sit day and night on a chair. On account of her size and weight, every requisite movement was effected with difficulty; her breathing was short and labored: to be brief, her death was almost from hour to hour expected. At a consultation on the case, Dr. Robertson (consulting physician to the Northampton Infirmary), Mr. Dix (of Long Buckby), and myself being present, the following mode of relief was adopted in the utter hopelessness of any other:—Each leg was placed in a separate foot-bath, when a lancet was deeply inserted into the mass of cellular tissue, which projected most on the outer side of each ankle. A stream of water instantly began to flow from both apertures, and continued to do so with such volume and rapidity that in less than twelve hours the whole of it was removed, and the body and legs had assumed their natural size and form. Bandages of flannel were repeatedly applied as the diminishing size required, and were kept tight about the body as a precaution against faintness. The relief of the patient was immediate and gratifying, and for the first time for several months she laid down on her bed and slept comfortably. There was, of course, a slight oozing from the apertures; but these, being kept closed by adhesive plaster and bandages, readily healed—almost as soon, perhaps, as they would have done in a patient otherwise healthy. The operation was subsequently performed by Mr. Dix six or seven times during the remainder of the lifetime of this patient, which lasted about five months after the first administering of relief, and the water was never again allowed to accumulate so as to cause inconvenience.

I trust that a satisfactory proof is here given of what may be safely done, even in the advanced stage of anasarca; and I submit that the same treatment will prove efficacious in its earlier stages, by the removal of smaller accumlations of water, while the operation may be repeated as often as is required. Some faintness occurred after the first operation in the above case; indeed, the loss of a large quantity of fluid which has so long pressed on the blood-vessels must inevitably cause this tendency. Hence arises the necessity of keeping a bandage round the body; and it is necessary also that the patient should keep strictly quiet for some time.

As to erisypelas following this operation (the probability of which has been suggested by one or two of my medical friends) I am not of opinion, that this is much to be feared. Let me add, that if patients afflicted with anasarca are to be left without artificial aid in the discharge of the serum collected—what follows? Nature attempts it, in a somewhat similar, but ineffectual manner; the distension goes on increasing, till at last the legs burst open by ulceration, and then only a partial escape of the fluid takes place; no real relief ensues, not to speak of the pain of so tedious a process. In the majority of cases, I believe that certain relief may be given, as well as life prolonged.—*Lancet, Oct.* 19, 1861, *p.* 370.

On Diphtheria. By William Budd, Senior Physician to the Bristol Royal Infirmary.

[It must be well known to our readers what a great variety of remedies have been suggested in this disease, each having its warm supporters.]

About two years ago, on the strong recommendation of my brother, Dr. G. Budd, I began to employ Beaufoy's solution of chlorinated soda, undiluted. Before that time, I had tried most of the preparations in vogue; but this one has seemed to me so superior to them all, that I have since abandoned every other in its favor. In my hands, it has appeared to have more than all the advantages of the other remedies in common use, without any of their drawbacks.

In all the cases in which I have hitherto tried it—amounting now to fifteen—the local disease has begun to decline from the moment of its first application. An immediate subsidence of swelling in the lymphatics in the neighborhood of this disease, has, in particular, always followed its use—a fact from which the inference seems pretty clear, that this agent may do much to prevent that secondary poisoning of the system by the absorption of putrescent matters from the throat, which, in many cases, has the chief hand in giving a malignant turn to the malady.

On the other hand, its employment is attended by little or no pain: it causes no inflammation, and it leads to none of those breaches of surface which are inseparable from the repeated use of powerful escharotics, and which, when once produced, often make convalescence so painful and protracted.

Lastly—and this alone is a consideration of the highest importance—by exercising a local disinfection in the very focus of the diphtheritic virus, there is reason to suppose that this preparation greatly lessens the contagious power of the malady.

A full-bodied camel's-hair brush is the best instrument for applying it; and to insure its full efficacy, both as a curative and a sanitary agent, the throat should be thoroughly mopped with it as many as three or four times a day.

The general treatment adopted was, in all cases, in entire accordance with that now almost universally followed, in so far as this consists in a supporting plan, and a pretty liberal use of alcoholic liquors.

Diphtheria is the effect of a poison, whose chief characteristic it is to produce rapid septic changes; and to enable the body to resist these changes, an abundance of good nutriment, and a sufficiency of wine or spirit, are indispensable.

These are matters which, in this country at least, are so well understood, that I need not enter further into them. The only specialty to which I have to refer in connection with the medical treatment of the cases which form the subject of these remarks, was the administration of the tincture of sesqui-chloride of iron in considerable doses.—*British Medical Journal*, June 1, 1861, p. 575.

On the Treatment of Acute Dysentery by Ipecacuanha. By Dr. R. W. Cunningham, Assistant Surgeon to H. M. 4th Bengal Europeans.

[It is only lately that ipicacuanha has been used in large doses in tropical dysentery, though it has long been known and used as one of the best remedies in that disease. It was formerly given in comparatively small doses; now in doses of ʒ i.—ʒ iss.]

On admission, a sinapism is applied to the epigastrium, and 30 minims of tincture of opium are given, for the purpose of rendering the stomach more tolerant of the remedy. An hour afterwards, one drachm to one drachm and a half, of ipecacuan is given in powder. Mr. Docker recommends it to be given half an hour after the tr. opii.; but, by waiting for a whole hour, the medicine is retained longer, and produces a more powerful effect. As may be supposed, considerable nausea is the result; but vomiting does not generally come on until at least an hour afterwards, sometimes two hours. During this nausea, copious perspiration is produced over the whole body; the pulse becomes more full and soft, and less frequent; the countenance loses the expression indicative of suffering, so marked in acute dysentery; tenesmus and abdominal pains immediately cease, and the patient has no more stools for 12, and sometimes for 24, hours. As soon as the nausea passes off, he expresses himself immeasurably relieved. The perspiration is kept up for a considerable time, and, of course, he feels languid and depressed for a little; but this has not, in any case that I have seen, proceeded so far as to call for any interference. When the patient next goes to stool, he does so without pain or tenesmus; the evacuations are fluid, and hold in suspension small masses of fæces, but are entirely free from blood or mucus. Sometimes the first dose is not sufficient, the dysenteric stools returning after a short interval; in which case a repetition of the dose will be required. Chicken broth and arrow-root are the only diet allowed. In most of the cases that I have met with nothing further has been required after the action of the ipecacuanha, than to keep the patient upon the above-mentioned diet for a few days, until the bowels recover their tone; or, if any tendency to debility manifested itself, a few doses of infusion of chiretta with nitro-muriatic acid have been sufficient to complete the cure.

The *rationale* of the action of ipecacuanha, thus administered, appears to me to be, that it produces the same relaxing effect upon the mucous membrane of the bowel that it does upon the system in general: a copious flow of the secretions of that membrane is produced, and an effect similar to that which we produce when we scarify an erysipelatous surface is the result—the membrane is relieved from the tension caused by the congestion and effusion of lymph, thereby preventing destruction of tissue and ulceration. The excreted fluids lubricate any scybalæ that may be retained in the saccules of the colon; and the general nausea overcomes the spasmodic action of the muscular coat, thereby enabling the scybalæ to be set free. But the action of the ipecacuan does not end here; enough is retained to produce a cathartic effect; or it may be that the whole mucous surface of the bowels has been induced to pour forth an increased secretion during the nausea; at all events the stools become copious, fluid, and fæculent. This catharsis continues for several days, thereby relieving any abdominal congestion that may exist, by causing a drain from the whole portal system; and it possesses this advantage over that produced by most purgatives, that it is mild, free from irritation, and neither constipates nor debilitates the bowel after it has ceased.

Of the cases treated by me, or which I have had an opportunity of seeing, not one has had a relapse after leaving hospital; and, on looking to the old Registers, I find that cases similar to those I have seen were, under other systems of treatment, much longer in hospital, and also very liable to relapse. Army surgeons have this advantage, that all acute cases of illness must come under their observation in the very commencement; so that, in most cases of acute dysentery, the patient is under treatment while the disease is yet in its first stage, and no actual destruction of tissue has taken place. The means is therefore invaluable by which we can arrest the frightful disease in its infancy, before it has advanced to the stage of ulceration, rendering necessary a long and tedious course of treatment, and too often giving rise to serious complications in other organs than the one originally affected in simple acute dysentery. By overcoming the disease at the onset, we at once relieve the general abdominal plethora with which it is associated; and thus, though the small intestine, mesenteric glands, liver, and spleen, be at the same time in a state of active congestion, the action of ipecacuanha as above described, is not only efficient in removing the actual inflammation of the organ primarily affected, but is even more so in overcoming the congestion of other organs, so intimately related as these are with the principal seat of the disease.

Though my experience of this disease has been very limited, I think we may fairly assume, on these grounds, that the occurrence of hepatic and other complications will be far less frequent, and chronic dysentery much more rare, than under other systems of treatment which require a longer continuance of the remedies, and thus allow active congestion of important organs to ripen into actual inflammation.

I append the following case as illustrative of the previous remarks. It was acute and uncomplicated. The patient was six days in hospital; but, after two days, may be said to have been convalescent, as the only treatment consisted in a regulated diet, no medicine whatever having been given.

Pte. J. L., aged 28, a stout, healthy-looking man, was admitted on the 20th October, suffering from acute dysentery. Has been to stool twice at hospital within a few minutes, and says, that during the whole night he has been to stool every half hour. He has much tenesmus, intense heat and pain in the rectum, deep-seated pain and burning sensation in the left iliac region; skin hot and dry; pulse small and frequent, about 100; tongue slightly coated. The stools contain no fæculent matter, but consist entirely of mucus, with bright fluid blood.

℞. Tr. opii xxx. minims stat. sumend.
℞. Emplast. sinapi epigastrio applicand, et post horam.
℞. Pulv. rad. ipecacuanhæ, ʒ iss.

Diet.—Chicken broth, with ℥ i. of arrow-root added to one pint.

Vesp. The medicine was retained for a very short time. There is a little improvement in the stools, but they are still frequent, and attended by much tenesmus.

Repeat.—Medicamenta supra scripta.

21st. Has had no stool since he took the ipecacuan last night. Retained the dose for two hours. All abdominal pain and tenesmus have entirely passed off. Deep pressure in the left iliac region does not now give pain. Skin cool and moist; pulse more full and soft, 90.

Vesp. Has had no stool; says he is quite well.

22d. Has had a small stool this morning, fluid and fæculent, without any dysinteric appearances, and without pain or tenesmus.

Vesp. Has had a large fæculent stool, fluid.

23d. One stool this morning; becoming more solid. Continues quite well, and complains of not having enough to eat.

24th. Continues well; has had no stool since yesterday. To have mutton chop ℥ viii. in addition to the former diet.

Discharged on the 26th October, quite well; and now continues so on the 1st November.

This case affords a good example of the success of the ipecacuanha major plan of treatment. The failure of the first dose I attribute to its not having been retained sufficiently long, the nausea and other effects were consequently very transient, and insufficient to produce the desired result.—*Edinburgh Med. Journal,* July, 1861, p. 26.

On Uræmic Intoxication. By Dr. W. A. Hammond, Professor of Anatomy and Physiology in the University of Maryland.

Professor Hammond has a long article on this subject in the "American Journal of Medical Sciences" for January, 1861, in which he controverts the opinion of Frerichs, that uræmia is due to the conversion of urea into carbonate of ammonia, and ascribes the poisoning to direct action of the elements of the urine retained in the blood, upon the brain and nervous system; and among these elements, urea may be deemed the most poisonous. Frerichs performed two series of experiments upon which his theory is based: the first of which consisted in injecting into the veins of dogs, the kidneys of which had been previously removed, a solution containing from thirty-one to forty-six grains of urea. In a period varying from one and a quarter to eight hours, the animals became restless, vomiting and convulsions followed, ammonia was expelled with the expired air, and coma and death surpervened; after which ammonia was found in the blood, stomach, bile, and other secretions. In the second series, a solution of carbonate of ammonia was injected into the circulation, the kidneys remaining intact; convulsions occurred immediately, followed by coma, the expired air meanwhile loaded with ammonia. As this ceased to be expired the animals slowly recovered. The author considers this no evidence that carbonate of ammonia was the cause of death, but on the contrary that ammonia may generally be detected in the respiration of healthy dogs, and is generally present in the blood of most animals, the truth of which he has satisfied himself of by repeated observation and experiment.

It is admitted that urea is a normal constituent of the blood in variable proportions; and it is only when the kidneys fail to eliminate in accordance to the requirements of the system, that the normal balance between the urea and blood is disturded. In support of his views, the author cites three series of experiments, the first of which was the injection of urea into the blood of sound, healthy animals. Large dogs were fed for three days on meat, during which time ammonia was constantly found in the breath, and urea in the blood. Upon injecting a solution of urea, symptoms of uræmia were soon apparent, of a severity in proportion to the amount injected. Upon a second examination of the blood, the urea had increased in quantity, while the ammonia remained about the same. "From the foregoing experiments it is perceived that there is a limit to the power of the system to eliminate urea, and that when this substance is introduced into the blood in large quantity, it causes death by uræmia."

The second series of experiments had reference to the effects following ligature of the renal vessels, or removal of the kidneys. For this purpose large dogs were selected, urea found in the blood, and ammonia in the breath before the operation. After removing the kidneys, or ligaturing the arteries, the amount of urea was increased threefold in a short time, and there was no evidence of any of it being converted into carbonate of ammonia. The animals died in periods varying from forty-nine to two hundred and seventy-eight hours. Congestion and inflammation of important organs were produced, as after injection of urea into the blood, or during the course of Bright's disease. It was also seen that "so long as vomiting and purging continued, there was no accumulation of urea in the blood, and consequently no uræmic intoxication."

In the third series, the kidneys were removed, and urea or urine was injected into the blood, which induced death with all the symptoms of uræmia, in from eight to fifteen hours; and when urine was injected into the circulation death occurred in a shorter time than when simple urea (though to a greater amount) was used in solution, whence it is inferred that urea is not the only poisonous element in urine. From his experiments and observations, Dr. Hammond arrives at the following conclusions:

1. The injection of urea, in limited quantity, into the blood of animals, produces a certain amount of disturbance in the nervous system, similar in its symptoms to the first stages of uræmia, but that this condition even disappears, if the kidneys are capable of so depurating the blood as to eliminate the toxic substance.

2. Urea, when introduced into the circulation in larger quantity

than can in a limited period be excreted by the kidneys, induces death by uræmia.

3. By ligature of the renal arteries, or removal of the kidneys, the elements of the urine being retained in the blood, render this fluid unsuitable to the requirements of the organism, and consequently induce a condition of system not essentially distinguishable from the uræmic intoxication of Bright's disease, or that caused by the direct introduction of urea into the blood. As, however, was pointed out by Bernard and Barreswil, so long as the urea, or the products of its metamorphosis, are discharged by the stomach or intestines, uræmia does not take place, but, that when these channels become closed, convulsions and coma are produced, and death soon follows.

4. The introduction of urea or urine into the circulation of animals, the kidneys of which have been ablated, shortens the life of such animals, as Frerichs and others have already shown.

5. There is reason to believe that the urine, as a whole, is more poisonous than a simple solution of urea, for, in those cases in which urine was injected into the blood, the amount of urea thus introduced was much smaller than that previously thrown in, in a pure state, and yet symptoms of as great intensity followed.

6. Urea, or the elements of the urine, as a whole, induce such a condition of the nervous system, as strongly to predispose to congestion and inflammation of the viscera, especially the lungs, pericardium and spleen.

7. Urea, when directly injected into the blood, or suffered to accumulate in this fluid by extirpation of the kidneys, deranges, in some manner, the process of sanguification, so as to disturb the normal relation of proportion existing between the white and the red corpuscles, and either to hasten the decomposition of these latter, or to interfere with the due removal from the blood of such as are broken down and effete.

8. There is no reason to suppose that, under the circumstances specified, urea undergoes conversion into carbonate of ammonia, but that, on the contrary, there is sufficient evidence to warrant the conclusion that no such process ensues. The fact that in the foregoing experiments a larger amount of urea is generally found in the blood taken from the body after death, than in that abstracted during life, is, of itself, conclusive against any such hypothesis.—*British Med. Journal, May* 25, 1861, *p.* 550.

On the Influence of Rest in the Treatment of Diseases of the Joints. By JOHN HILTON, Esq., F.R.S., Surgeon to Guy's Hospital, &c.

When a joint becomes inflamed, it is painful and difficult of movement; it becomes involuntarily fixed by Nature's own process, thus securing comparative rest to the interior of the joint.

Indeed, we may lay it down as an axiom, that Nature instinctively renders an inflamed joint comparatively fixed and flexed. Now, what is the key to the explanation of the flexed position and rigid state of an inflamed joint? Some might say, "Because the patient finds it the easiest position for himself, and the easiest position must, of course, be the best," But this is no answer to the question, How is this position induced? It is not voluntary. The patient cannot either prevent it or change it when it exists; nay more, it is not true that the flexed position is the easiest; for every day's experience declares the contrary, and I shall hope to have the opportunity of showing you distinctly that, when the hip-joint is diseased, it is flexed, and it is often in a very painful state; but that when the femur is put straight so that the flexed condition is destroyed, the patient from that time is free from pain. Here is an instance in direct contradiction of the idea that the flexed condition is the easiest for the patient. When the joint is made straight, the patient experiences, almost immediately, a diminution of pain. It is true, however, that in the case of the knee-joint it is sometimes otherwise; the reason for which I will endeavor to point out, through the medium of these diagrams, which represent the knee-joint in an extended, semi-flexed, and completely flexed position. It is plain that when the femur, tibia, and patella are in the position in which you here see them, the leg being in a state of extension, there must be a much larger extent of articular surface coaptation than in any other position of the joint; and this surface coaptation becomes more and more reduced, or less in extent, as the tibia is carried backwards away from the femur; and, probably, it is this diminution in the extent of the articular surface contact, as well as the diminished pressure, which explains the feeling of comfort that patients sometimes experience when the inflamed knee-joint is allowed to become flexed.

Still the question comes to us, Why is an inflamed joint fixed and flexed? It appears to me to result from the circumstances to which I shall allude presently more in detail—viz., that the irritated or inflamed condition of the interior of the joint (say the knee-joint), involving the whole of the *articular nerves,* excites a corresponding condition of irritation in the same nervous trunks which supply both sets of muscles, extensors, and flexors; but that the flexors, by virtue of their superior strength, compel the limb to obey *them,* and so force the joint into its *flexed condition.* The joint becomes rigid and flexed then, because the same nerves which supply the interior of the joint supply also the muscles which move the joint.

This anatomical arrangement, physiologically considered and rightly interpreted, may be made the means of explaining some of the most prominent symptoms of joint diseases, and of constituting a foundation for the required treatment of diseased joints by rest, which I propose to advance and to recommend.

In order to place this important anatomical, physiological, and pathological subject comprehensibly and definitely before you, I will state it thus: "*The same trunks of nerves whose branches supply the groups of muscles moving a joint furnish also a distribution of nerves to the skin over the insertions of the same muscles; and—what at this moment more especially merits our attention—the interior of the joint receives its nerves from the same source;*"—thus implying an accurate and consentaneous physiological harmony in those various co-operating structures.

The large drawing which is placed before you was taken from a recent dissection, kindly accomplished for me by Mr. Durham, of Guy's Hospital, and depicted by an artist (Mr. Tupper) not now attached to Guy's School. You may see here the circumflex nerve branching into the teres minor and the deltoid muscles, distributing itself to the skin over the deltoid, and then proceeding to the skin over the fascia of the upper arm, to which the deltoid muscle is partly affixed. Yonder will be noticed the articular branch of the circumflex nerve, the branch which proceeds to the shoulder joint. Other nerves go to that joint, such as a branch from the subscapular trunk, which is derived from almost precisely the same part of the auxillary plexus as the circumflex nerve. So the suprascapular nerve, after supplying the supraspinatus and infraspinatus muscles, sends little filaments to the interior of the same joint. Thus the same circumflex nerve supplies these muscles, the joint which these muscles move, the skin over the muscles, as well as the skin over the fascia, which is a part of the insertion of the deltoid muscle. But here I touch upon a point, by which I am reminded to state that every fascia of the body has a muscle attached to it, and that every fascia throughout the body must be considered partly as the insertion of a muscle. I shall be able hereafter to trace nerves derived from the same trunk supplying the joint and muscle, sometimes distributed over a large extent of fascia. That extent of nerve distribution, however, I shall show to have a very exact relation to the proportionate attachment of the muscle to the fascia, of which I shall be able to adduce some well-marked examples.

The object of such a distribution of nerves to the muscular and articular structures of a joint in accurate associations, is to insure mechanical and physiological consent between the external muscular or moving force, and the vital endurance of the parts moved—namely, of the interior joints (whether it be of friction or of pressure); thus securing in health the true balance of force and friction until deterioration occurs. If this point of balance or adjustment be overreached during exertion, pain, Nature's warning prompter, is induced within the joint, and suggests the necessity of diminishing or arresting exertion. This cessation or this reduction of exercise, or friction and pressure upon the articular structures, *must be effected* by the muscular apparatus of the joint, either through the will, or immediately by its own instinctive efforts, called into play by means of the nervous association. The muscles, indeed, appear to be told, through the medium of the nerves of the interior of the joint, that its articular structures are overtaxed; and, the antagonistic muscular forces of the joint being thus involuntarily excited, it (the joint) is at once rendered rigid and stiff, for the purpose of keeping it at rest. Or it may be put in this way (only as a confirmatory, however),—that the interior of the joint itself, under the influence of physiological exhaustion, contributes something towards the same end, by failing to secrete the proper quantity of synovial fluid. The joint thus robbed of its lubricating medium demands of the *exhausted muscles,* for its movement a still greater effort than in its normal state; and their inability to respond to the extra demand necessitates the quietude or rest of the joint. Still in this mode of viewing the subject, the necessity for limiting exertion in order that the interior of the joint may obtain the congenial rest requisite for the renewal of its physiological power and structural integrity, is intimated to the moving agents by the same nerve interpreters, and they (the moving agents), in obedience to the announcement, render the joint stiff and difficult of movement.

Without this muscular and articular nervous association in joints, there could be no intimation, by the internal parts, of their exhausted function; and there cannot be any doubt that it is when this period of functional exhaustion in the internal parts has been reached, and articular friction is nevertheless continued (notwithstanding the structural and functional prostration), that the mischief to the articular structures commences, and disease of the joints, as we term it, starts into existence.

Again, through the medium of this *muscular and cutaneous* nervous association, great security is given to the joint itself, by those muscles being made aware of the point of contact of any extraneous force. Their involuntary contraction instinctively makes the surrounding structures tense and rigid, and thus is brought about an improved defence against further temporary encroachments.

This same associated muscular and cutaneous nerve distribution is obviously of the highest importance in reference to the sense of touch, through a recognition induced by due pressure. In the absence of this peripheral, or cutaneous, and muscular harmony, through the medium of the common distribution of the same nerve, the refinements of the sense of touch could scarcely be acquired; for rude or heavy pressure is incompatible with minute and delicate appreciation by touch. So that if I touch anything with my forefinger, the impression made upon the sensitive nerve conveys to the associated motor nerve from the same trunk the precise extent of pressure which is necessary for the recognition of the required force. In prehension, or grasping with the hand, the indication as to the completion of the necessary force to be employed must be the impression made upon the sensitive branches of the same nerve which supplies the muscles employed in the act of prehension or grasping. Thus the median nerves, with others, are employed in grasping and in the adaptation of the fingers to the palm of the hand. The limit of that grasping is the perfect recognition of the contact of the different parts of the hand to be pressed upon. Whether the body to be grasped be great or small, there must be an instinctive limit to the grasping effort. This can only be indicated to the muscular apparatus employed by the sensitive nerves. So that I say, in prehension, the indicator as to the completion of the necessary force to be employed must be the impression made upon the sensitive branches of the same nerve which supplies the muscles employed in the act of prehension or grasping.

So in standing, walking, or jumping. The contact of the skin of the foot with the ground intimates, in health, only the degree of muscular force necessary to sustain the erect posture in standing; to gauge the use of only the required energy in walking; and to moderate the concussion of jumping. Without this normal, consentaneous muscular and sensitive function, precision of action would be lost, and unmeasured exercise of muscular force would be employed during the performance of any of these functions. The nice adjustment of muscular power must be an important thing, for we know that unexpected muscular force breaks the patella.

Now let us go to the bedside. Is it not indisputable that if we allow an inflamed knee-joint to lie upon a soft pillow, unconstrained by mechanical means, the muscles of the joint, stimulated to undue exertion, never allow the articular surfaces to be kept quietly in apposition without pressure upon each other?—thus explaining the fixed condition of the joint. The flexion, too, receives its explanation from the exalted muscular vigor. Thus the flexors—as I before remarked, the more powerful muscles—act unceasingly day and night, apparently without any rest, and especially declare their mischievous assiduity by the wakeful slumbers and disturbed sleep of the patient. This persistent action of the flexors slowly alters the relation of the articular surfaces of the bones to each other—more slowly indeed, but not less surely than the hour-hand of that clock, which does not appear to move, but yet if I compare its present position with that which it occupied when I commenced this lecture, I discover that it has gone on marking the course of time.

Let us take the case of the knee-joint again. The surgeon sees the inflamed and swollen joint, lying on its outer side, and desires that it may be kept quiet upon the bed, or on a soft pillow. Whether he sees it again in a few hours or days, or in a week, the first thing that strikes him with regret, and perhaps surprise, is the changed position of the bones. He sees that the knee-joint is considerably more flexed than when he saw it last. On inquiry, he ascertains that neither the patient nor the nurse has disturbed it, and then he recognizes that the stealthy and mischievous flexors have secretly effected this change in position. If you give the patient chloroform, and destroy muscular action for a time, the joint is then perfectly moveable by ordinary manual force; so that it is not the mechanical distension of the *interior* of the joint by fluid, or the incumbrance of the joint by the fluid or solid results of inflammation upon its *exterior*, which produces early rigidity or flexion; it is forced coaptation and flexion under the influence of muscular energy involuntarily exerted; for as soon as muscular contraction is destroyed by chloroform, the fixed and flexed conditions of the joint are for the time entirely lost. And here I may state, that over and over again I have seen the mischievous and destructive effect of this increasing state of flexion of the joint, and not seldom, I may say, resulting from procrastination, or inexcusable want of courage on the part of the surgeon to rectify it, or from his yielding too easily to the importunities of the patient or his friends, in order to avoid giving pain to the patient. From the time when the limb begins to be flexed starts the mischief, which by-and-by cannot be controlled.

It seems to me that a great mistake is made on the part of professional men, when they see an inflamed knee or other joint beginning to be contracted or flexed, not to correct it at once. I believe that their duty lies in preventing the increase of the flexion, and so averting the condition which, in some cases at all events, leads to the necessity for amputation.

This sole explanation of the cause of the fixed and flexed joints applies particularly to recently inflamed joints, before the deposition of new and comparatively solid material has taken place around and within the articulation, such as usually occurs in cases of long continued or chronic inflammation of joints, when, no doubt, the contraction and fixed condition depend partly on the incumbrance of the joints by the new material, and hence the deformity of the joint at that period cannot, even under the influence of chloroform, be entirely removed.

And here let me just refer again to this constantly flexed state of an inflamed joint. Take an inflamed hip-joint: I venture to say that no gentleman here ever saw an inflamed hip-joint with the leg extended. It is uniformly bent, and also, as a rule, slightly adducted, the cause of which I shall have occasion to refer to at another time. In the case of the knee-joint, when inflamed it is always flexed; but, curiously enough, the malingerer, willing to deceive and to impose, almost always endeavors to indicate his long continued and extreme suffering by fully extending the leg. But this extended position displays the imposition, for an inflamed joint is never straight, but always flexed, the degree of that flexed condition depending upon the intensity or the long duration of the mischief. Did any person ever see an inflamed ankle-joint, permitted to pursue its own course, remain nearly at a right angle with the foot? The heel is always raised by the gastrocnemii, and the toes pointed downwards. So with an inflamed elbow-joint; it is always flexed, never extended. But when we come to the wrist-joint, we find that although the muscular power associated with it is very great, yet in consequence of the extending and flexing forces being pretty equally balanced, we seldom have much flexion of the hand when the wrist-joint is inflamed. This is in strict accordance with the law which I have endeavored to place before you—the quality of muscular force not causing much disturbance of the bones, but simply maintaining the joint in a quiet, but fixed condition. So again with the fingers. Who ever saw a finger with an inflamed joint of any duration in which the finger was perfectly straight? Such a thing was never seen; the inflamed joint is always more or less bent under the influence of the flexors. I think we may in the hand recognize the proportionate condition of flexion associated with diseased joints, in reference to a distribution of nerves, on which I shall have occasion to dwell at our next meeting. The forefinger, for example, when inflamed, is generally not so much flexed as the others, because it has an added muscle, the extensor indicis, which counteracts the tendency to become flexed. With regard to the thumb, I should say, as a rule, it is not proportionately so much flexed towards the palm when inflamed as the middle or ring finger. The explanation lies in this: that there is a greater balance of power in the muscles of the thumb, the flexors and extensors, as compared with the corresponding muscles of the fingers. This will explain the extreme flexed condition of some of the fingers, the slight degree of flexion of the forefinger, and the nearly straight condition, as frequently observed, in an inflamed joint of the thumb.—*Lancet*, July 20, 1861, p. 57.

On a New Operation for the Radical Cure of Hernia. By Prof. Chisholm, of South Carolina.

This operation by Prof. Chisholm, of South Carolina, is thus described by one of his pupils:—

"These and other considerations have induced Dr. Chisholm not to rest satisfied with the successes gained even by his modification of Wood's operation, but to add a still greater improvement, simplifying the entire procedure, and obviating nearly all the objections which have been, or may be urged to Wood's.

"The new operation is as follows: The scrotum having been invaginated upon the finger—as the only mode of guiding the needle in its passage—a long, strong curved needle, fixed firmly in a handle, and armed with silver wire, guided by the finger, transfixes the scrotum at the apex of the invaginated portion, passes through the internal column, and appears through the skin of the abdomen, when one end of the wire is drawn out. The point of the needle is then drawn backwards, and disappears again in the canal. Its direction is then changed. Whilst still embedded in the scrotum, and guided upon the finger, its point is made to traverse the external column of the ring, near Pouparts's ligament, lifting the skin of the abdomen. By gliding the skin upon the needle, the point appears through the small puncture made by the first passage of the needle, when the other end of the wire is seized, the needle is unarmed and withdrawn through the scrotum.

The finger is now removed from the canal, and the two ends of the wire being drawn upon the loop, it dissects the cellular tissue up to the columns, which it hugs closely. By twisting the ends of the wire the columns are felt approaching until they are brought into such close apposition as to allow nothing to pass between them, the spermatic cord in its exit filling up all the available space remaining of the ring. When the ring is felt closed, the twisted wire is drawn firmly outwards, and clipped off as close as possible to the skin, so that, when traction on the skin of the abdomen is removed, the gliding back of the integuments to their normal positions conceal completely the ends of the small loop of silver wire. The scrotum has already fallen back to its pendent position, and the only trace of an operation having been performed is in the two small punctures, one in the scrotum and the other in the abdomen which require a careful search to find them, and which will heal up in a few hours, hermetically incarcerating the silver wire.

"A moderate inflammation follows the operation, without much pain or swelling, and without any fear of suppuration. The wire is soon embedded in a lymphy deposit, which will not only close it, thus isolating it from the tissues, but, at the same time, agglutinates the columns together as an additional security to the success of the operation. The patient is kept quiet in bed four or five days, opium being given to insure rest and prevent action of the bowels. When the inflammatory stage has passed, a cathartic is administered, and the patient can quit his bed, resuming his occupation in a few days. The silver wire remains a permanent application. An essential element in the success of the operation is that the loop encircle the columns of the ring near their points of attachment to the pelvis. Otherwise, the columns cannot be approached, the ring remains open, and the results can only be negative. If this step of the operation be carefully followed, a radical cure can be nearly guaranteed."

The advantages of the operation are the short time the patient is detained in bed, the slight amount of inflammation produced, the dispensing with the use of a truss, and the security against relapse, consequent on muscular effort—the reliance being placed not on newly-formed adhesions, but on the silver wire. When the protrusion is large and the ring voluminous, several points of suture may be applied through the same punctures. The objection that the wire will always act as a foreign body is shown by experience to be unfounded, as it may remain harmlessly embedded in the tissues for any length of time. Four cases only have as yet been so operated upon, and that only since November, 1860.—*American Medical Times*, No. 5.

To the above we may append an account of a mode of operating found useful by Dr. Agnew, of the Philadelphia Hospital, and described in the North American Medico-Chirurgical Review (January, p. 117) in the following terms:—

"The instruments necessary for the operation consist, first, of two semi-cylinders of steel, 3 inches long and 1¼ inches in circumference, which can be separated from each other by a screw in the handle of the instrument, and on the internal face of the lower blade of which are two parallel, longitudinal grooves; secondly, of a spear-pointed needle, slightly curved at the extremity, and supported on a bone-handle; and, thirdly, of several stout needles of from 2 to 2½ inches in length.

"A portion of the scrotum is carried in, followed by the metal cylinder, and thrust up to the internal ring. The blades are now separated by means of the screw, and the long needle, armed with a thread of silver wire, is carried along one of the grooves to the upper end of the cylinder, and then made to pierce the exterior parietes of the inguinal canal. The thread is then removed from the needle, the latter withdrawn, and the other end of the wire passed through its eye, when it is passed along the other groove, and made to emerge a short distance from the first. It is again unthreaded, and after its removal the two ends of the wire are drawn up tightly and twisted over a small roll of lint. This effectually holds up the small plug of integument to the very summit of the canal, and as the silver thread manifests but little disposition to ulcerate out, it may be allowed to remain for a considerable time. The second and most important step of the operation consists in screwing the handles of the instrument completely together, (thus separating the blades in the canal to their greatest possible extent,) and then carrying across the canal, between the blades, four or five threads, at equal distances from each other. The first thread should be composed of silk, and be introduced as near the internal ring as possible. The remainder should be of silver, the last one being close to the external ring. These transverse threads can be lodged in the canal with great accuracy by this method, the cord being protected from injury by the posterior blade of the instrument. The latter being withdrawn, the patient is confined to his bed, the parts being protected by a compress and roller, and the wires should be removed as soon as the plastic exudation has bound the invaginated plug to the walls of the canal, which in the cases operated upon required twelve days."—*Medical Times and Gazette,* March 30, 1861, p. 339.

On Dislocations of the Shoulder-Joint. By Dr. N. R. Smith, Professor of Surgery in the University of Maryland.

[Dr. Smith has for many years practiced the following method of reducing dislocated shoulder, and has found it to be most efficient.]

Extension, counter-extension, and manipulation, constitute the mechanism of the operation of reduction. Counter-extension is the mere fixing, or rendering firm and immovable, the scapula.

The head of the humerus alone requires to be relatively moved. The immobility of the scapula effected by counter extensions, is obviously of essential importance. All the movements of the head of the bone, effected in the effort to reduce the same, would merely drag or thrust the scapula loosely about, without changing the relative positions of the head and glenoid.

To effect the immobility of the scapula is the real difficulty in the reduction of this dislocation. In many of the methods practiced, the bands employed for this purpose oppose the return of the head of the bone to its place. By some a slit is made in a broad band of stout muslin, the arm carried through it, and one margin of the slit brought into the axilla and the other against the acromion. The tails of the band are carried, one across the breast, the other across the back, horizontally, and are secured to the wall. The lower margin of the slit supports effectually the lower portion of the scapula, but the support of the upper, which is by far the most important, is not well effected. The margin of the band cannot be expected to remain opposed to the thin edge of the acromion. It will either glide over the top of it, or fall beneath it into the depression caused by the dislocation. In the former case it will not support the scapula above, but will allow it to be drawn outward and downward. In the latter case it will, by occupying the cavity to which the head of the bone is to be returned, hinder the reduction.

In effecting counter-extension, it is undoubtedly, in most instances, expedient to apply our resisting bands as directly as possible to the bone from which the other is dislocated. But the difficulty in this case is to effect it without defeating the object in the manner indicated above.

On noticing the mechanical relations of the scapulæ, with their apparatus of muscles, to each other, it occurred to me to make counter-extension from the opposite wrist, an expedient directly at variance with the commonly received principle, because as remotely as possible from the bone to be supported. There are exceptions to most rules, and I shall endeavor to establish this as one.

Let us observe the continuity of ligament, bone, and tendon by which the two scapulæ are bound together and made mechanically dependent upon each other. Anteriorly the two acromion processes are bound together by an unyielding chain of bone and ligament. The two clavicles, the sternum, and the interclavicular ligament chiefly constitutes this bond of union. The fibrous-resistent ligaments in this chain are not capable of being stretched. If traction be made from opposite wrists, the two acromion processes, thus tied together, are not capable of being drawn asunder to the extent of half an inch.

Posteriorly the continuity of resisting parts is almost as perfect. The broad expansions of the scapulæ approach each other not remotely, and they are bound to each other by the interposition of the ligamentum nuchæ, and indirectly by muscles and tendons at

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tached to the spine. Traction from the two extremities will not therefore separate the scapulæ to any considerable extent.

The superior angles of the scapulæ indirectly support each other through the medium of the cervical portion cf the spine. The elovator muscles, arising from the superior angels of the scapulæ, pass upward to be inserted into the tranverse processes.

Now the object of counter-extension is to prevent the yielding of the scapulæ to the tractive force exerted upon the dislocated member. Nothing does this so effectually as the fixing of the opposite scapulæ by counter-extending from the wrist. Not only is the scapulæ thus sustained, but the spine erected and prevented from yielding to the tractive force, and becoming curved to the injured side, as invariably happens when counter-extension is chiefly made from the axilla, as is usual. Let the experiment be made by allowing a person to incurvate the spine laterally, and then making traction horizontally from the two wrists. The spine will be immediately erected and the two scapulæ will at once assume symmetrical positions. And so in dislocation, the symmetry of the two sides tends at once to be restored. The head and spine are elevated, the two scapulæ firmly sustained, and effect is given, both to the tractive force, and to the necessary manipulation.

In some of the first cases in which I employed this method, I directed simply traction from the two wrists, and I am not now confident that this is not the best method. I placed the patient in a chair and directed two strong persons to make steady horizontal traction from the two wrists. As soon as the spasmodic resistence of the muscle was overcome, the head of the bone was disengaged, and the muscles which help us in such cases, suddenly lifted the head into its place. It will be observed that this method causes no appreciable pain, but rather relieves the suffering of the patient caused by the pressure of the head of the humerus.

It is now some twenty years since I commenced the use of this method; I am not, therefore, premature in expressing my confidence in it, and recommending it to the profession.

In cases in which, from unusual muscular development, or the age of the dislocation, much resistance is expected, I have modified the application of the counter-extension thus:—

I place the patient in a chair, sitting a little on one side of it, so as to allow room on the side of the injury for the operator's foot. I then pass a piece of stout muslin, folded, around the chest and under the axilla of the injured side. The tails of it I carry horizontally to the opposite side, one in front, the other behind, and extending the arm horizontally, bandage them firmly to the wrist of the sound side, leaving the ends projecting, to be well secured to the wall, or other unyielding substance.

I then pass an ordinary roller over the top of the injured shoulder, and back and forth, twice under the muslin band, to prevent its slipping down. Then I continue the same roller under the bottom of the chair and over the shoulder, three or four times. This helps to give steadiness to the scapulæ, and especially to prevent the involuntary rising of the patient from the chair, or the tilting of the scapulæ upward, when it is necessary to make the manipulation of which I am to speak.

I now attach the extending band to the wrist of the injured side. I am aware that this is counter to the practice of many very eminent surgeons, especially Sir A. Cooper. My reasons are these: First, the wrist furnishes, as we may say, a very convenient handle to the arm. The band employed, if properly attached, does not slip, nor lacerate the integuments. In cases in which no great resistance is expected, it can be conveniently grasped by the hands only of one or two persons. In the next place, this method gives much more mechanical advantage in the way of leverage, in executing the final manipulations by which the head of the bone is thrown into place. It also removes the bands and hands of the assistants further from the patient's chest, and gives the surgeon more free access to the shoulder and more command of the arm.

The principal argument in favor of attaching the extending bands above the elbow is the relaxing, by this method, of the biceps muscle, which, by the complete extension of the forearm, is rendered tense. This disadvantage in my opinion is more than counterbalanced by the advantages mentioned above. The biceps is not capable of insuperable resistance; besides, a certain tension of its tendon, where bound to the head and neck of the bone, is favorable to the reduction, and it is partly the action of this muscle that finally, with a sudden shock, restores the bone to its place. Besides, when the bands are applied above the elbow, the forearm being at right angles, from the form of the arm, if any considerable traction is made, they will invariably slip over the elbow, make very painful pressure on the sensitive parts in the bend of the elbow, and not only cause great suffering, but extend the forearm and thus defeat the object in view, so that the advantage sought is lost, and many disadvantages encountered.

I first apply a wet roller to the wrist, and then attach a muslin band by the clove hitch. Next I direct the extension to be made by two persons, at first outward and a little downward, gradually raising the arm to the horizontal direction, and finally a little above it. The extension must be made gently and steadily, gradually increasing the force, so as not to provoke the musles to spasmodic resistance. As no pain is created by the force thus employed, it may be continued for a considerable time. The muscles, which at first resist, become fatigued and finally relaxed, and, in a large majority of instances of recent luxation, the head will slip into place without resort to any species of manipulation. I would even continue this traction, where much resistance is encountered, for a quarter of an hour before modifying the force; but, in case the object is not then effected, let the surgeon place his foot on the margin of the chair, and his knee in the axilla. Then let the assistants raise their line of traction above the horizontal as much as possible, and continue it for a moment. The surgeon should then direct that the arm be, by a sudden movement, carried downward, while, by extending his foot, he elevates the knee in the axilla. He aids the assistants in this by grasping the arm near the elbow and using it as a lever. If the first effort is not successful, repeat it.

Sometimes I place on the knee a ball made by rolling up a bandage, but it is not important. The surgeon can thrust his knee into the axilla so as to avoid much pressure on the marginal muscles of the axilla.

I generally direct those who make the traction to sway the limb horizontally backward and forward, and, grasping it with my hands, at times rotate it a little on its axis, thereby contributing to the disengagement of the head of the bone.

Where the consecutive displacement under the coracoid has occurred, the procedure is nearly the same, except that I make the traction a little more in the direction backward and upward, so as to disengage the head from under the process.

The dislocation upon the dorsum scapulæ, as I have before remarked, I have never seen but in three instances, and only one of those was a recent case justifying the attempt at reduction. It had been dislocated five days, and had resisted an attempt at reduction in the hands of others. The subject was a female, and I could obtain no very satisfactory account of the mechanical mode of the injury. It was easily recognized, there being a tumor beneath the spine of the scapula, as Sir A. Cooper describes, of the size of the hemisphere of a small orange, the limb being shortened and thrown forward. A depression existed under the anterior margin of the acromion. I failed to effect the reduction in the method usually recommended, and which I had deemed the best. I did not then practise extension from the opposite wrist. I made it by carrying the arm through a slit in the sheet. The extension was effected from the wrist, and when continued for some time, I sought to throw the head into place by manipulation—that is, I placed my knee against the back of the neck of the bone, and, swinging the arm backward, endeavored to prize the head into its place. I repeated the effort several times, but with no satisfactory result.

I then carried a band over the front of the shoulder, one tail under the axilla, the other above it. These I united, carried them backward and inward obliquely, and secured them to the wall. Then I made traction strongly from the wrist almost directly forward. Without much difficulty I thus drew the head of the bone forward over the margin of the glenoid, and had the satisfaction to see it slip into its place.

Much has been said of late of the sufficiency of *manipulation*, to the exclusion of extension, in the treatment of dislocations. By employing new terms, and ignoring the precepts of old surgeons, claims to originality have been set up. Although the term is modern, the method of manipulation has been practiced for centuries. It is, in my opinion, ridiculous to throw away the advantages derived from extension for the sake of magnifying the importance of a particular method of manipulation. Mothe, a long time ago, reduced the discolation of the shoulder into the axilla by placing the patient in a supine position, and carrying the arm outward and finally upward, parallel with the head and neck, making traction at the same time.

It is well known that a recent dislocation into the axilla, may sometimes be reduced by placing the knee in the axilla, one hand being placed on the shoulder, and the other using the humerus as a lever.

The supine position of the patient on a table is a very convenient arrangement in all dislocations of the shoulder, and is well calculated to promote the efficiency of the method which I recommend. I am not sure that it is not the very best, especially when chloroform is employed.

It will be observed, then, that I advise the combination of traction and manipulation. It would be as absurd to reject traction in all cases of dislocation, as it would be to attempt the reduction, by manipulation alone, of the fractured femur, where overlapping and shortening had occurred.—*American Journ. of Med. Science,* July, 1861, p. 20.

Complicated Case of Oblique Congenital Inguinal Hernia. By Dr. William J. Wilson, Surgeon to the Clay-Cross Collieries, Derbyshire.

On the 16th of April, 1861, at two a. m., I was summoned by Dr. Houghton, the assistant-surgeon to the Clay-cross Works, to a patient suffering from strangulated oblique inguinal hernia, whom I found drunk, collapsed, pulseless, and vomiting, apparently in great pain, and very unruly. On examination, I discovered a firm, oval tumor, the size of a hen's egg, in the left groin, and considerable fulness along the course of the inguinal canal. I entertained doubts as to the character of the tumor, but the patient not being in a position to give me its history, and the bystanders knowing nothing more than "that it had been down once before, and had been put back without cutting," I did not feel justified in leaving my drunken patient with such a suspicious tumor in his groin.

Dr. Houghton at once administered chloroform, and it acted as a direct stimulant to the nervous system and to the heart's action, as, indeed, I believe it almost invariably does in collapse the result of injury. The patient having been brought fully under the influence of the chloroform, I applied the taxis, but without success, and then proceeded with the usual operation for the relief of oblique inguinal hernia. I found it necessary to divide some constrictions at the internal abdominal ring, after which a portion of the tumor was returned into the abdomen with an unmistakable gurgle. A tumor, however, still remained in the groin, between the scrotum and the external abdominal ring. I re-introduced my finger into the inguinal canal, and found only the spermatic cord, and that the communication with the abdomen was quite patent. Now came the question—What is this tumor? Not an undescended testis, for there are two in the scrotum. Is it, then, a hydrocele of the cord? I applied the knife, divided a fibrous membrane, and then there exuded a number of fine, vermiform, yellowish filaments, each accompanied by a congested vein; and on squeezing the testicle (?) in the scrotum, these filaments and veins protruded all the more from the cut in the inguinal tumor. I now felt certain that I had cut into a portion of the testis, and believed that the inguinal tumor was the globus major of the epididymis, enlarged by disease, and that the vascular filaments were coni vasculosi. The gut being fairly returned, however, I felt only a temporary pang at having wounded the testis, and was content to labor for a few days under the imputation of having operated on a testicle in mistake for a hernia.

Eight hours subsequent to the operation I obtained the following history from the patient: He has always had *two* testicles in the scrotum, and has remarked that the left one (corresponding to the groin operated on) has always been a little smaller than the other. Never observed a tumor in his groin, except on one occasion, when "it came down" while he was lifting a weight. It was returned by my late assistant, Mr. Carter; and he had leeches applied to his abdomen, and took pills and medicine. On the present occasion, he remembers sneezing, then "feeling something give way in his groin," which caused such great pain that he fell to the ground. "Drunk and incapable," there he lay until found by his friends, at two a. m.

The history was simply that of a hernia of the gut. Had I then erred as to the tumor left in the groin? Had I left a lump of omentum there? I felt certain that I had not erred, and that my patient's history was not correct. Both Dr. Houghton and myself had passed our fingers into the abdomen; both had felt that the inguinal canal contained nothing but the spermatic cord; both has seen the spermatic ducts (?) ooze through the cut in the inguinal tumor when the testis (?) in the scrotum was squeezed; both of us had felt the tumor, and traced the spermatic cord passing into it. How could we be mistaken? The sequel will show how far we were correct in our diagnosis.

Nine P. M. Swelling and intense tenderness of the testicle (?) in the half of the scrotum corresponding to the groin operated upon; pain and tenderness along the inguinal canal and over the lower part of the abdomen; anxious expression; pulse 120, small, and wiry; great nausea and faintness; slight bilious vomiting; no action of the bowels. I diagnosed *orchitis*, consequent on the puncture of the portion of testis (?) in the groin; and peritonitis, the result of the strangulation of the bowel and of the operation; and I saw in this orchitis (?) a confirmation of my opinion as to the nature of the inguinal tumor. Ordered twenty leeches to the tender parts; calomel and opium every two hours; and the effervescing citrate of potash with prussic acid.

17th. The peritonitis has become more general, but the scrotal tenderness is much less marked. Ordered a repetition of twenty leeches, and to continue with the calomel and opium. Flatus has passed freely per rectum, but no stool. Vomiting continues, but the ejecta have not the slightest suspicious appearance or smell.

18th. Dr. Booth, of Chesterfield, kindly met me in consultation, and to him I stated every particular relative to the history, the operation, and the subsequent treatment of the case; the main points of my statement being, that a knuckle of intestine had been returned, completely and satisfactorily, but *no sac opened,* and I believe there was none; that the remaining inguinal tumor was *part of,* if not *the* testis; and that I had satisfied myself of this by opening it. I asked whether the symptoms called for any further operative interference? Dr. Booth replied that *the testicle was certainly in the scrotum;* but that he would not hold himself responsible for what was in the groin. Believing my statement as to the complete return of any abdominal protrusion that might have been present, he did not consider the existing symptoms more urgent than frequently occurred after the operation for hernia, and he should not advise an operation, but should rely on calomel and opium, fomentations, &c.

19th. Ten A. M.: Has passed a tolerable night, and is improved in every respect. The abdominal and scrotal tenderness has almost entirely disappeared; the wound in the groin is sloughy and painful. I administered a copious enema of warm water. It returned, in about half an hour, slightly discolored and smelling very offensively. Ten P. M.: Vomiting has been very urgent for the last two hours, and the ejecta have a fecal appearance.

20th. Vomiting decidedly fecal and very copious. Bowels not moved. Complains of great pain about the umbilicus and left groin. The patient insists that "there is an obstruction," and prays that it may be removed.

I now began to feel that a second operation was imperatively demanded, and that in all probability we should find a knuckle of intestine had again been forced into the inguinal canal (rendered unusually patent by the recent operation) during the act of vomiting, no pad having been applied in consequence of the tumor left in the groin.

21st. Two P. M.: In the presence of Dr. Booth, Dr. Houghton, Mr. G. O. Siddall, and two medical students, I turned up the flaps made at the previous operation, and exposed a tumor, of the size of an egg, thickly coated with recent lymph. After scraping off some of this lymph we found the tumor to consist of two distinct parts, the upper portion being a knuckle of inflamed intestine, and the lower the testis (?). The intestine was flaccid, and overlapped the upper portion of the other tumor. I enlarged the incisions made on the previous occasion, so as to expose the whole of the inguinal canal, and found that by simply breaking down the recent lymph which connected the bowel with the canal and the internal ring I could readily pass my finger into the abdomen. Observing this, together with the flaccidity of the bowel, I felt that the hernia was *retained* in the canal by the inflammatory products rather than *strangulated at its neck.* Partly with my finger, partly with an edgeless knife, I broke through the remaining adhesions and then returned the bowel with the greatest facility. The gentlemen present now examined, with their fingers, the tumor left in the groin and the one in the scrotum, but without satisfying themselves as to which was really the testis. The prevailing opinion was that the *testis was in the scrotum.* Each tumor felt as though a "cord" passed into it. The examination was merely tactile, the inguinal canal having been ascertained to contain nothing but the spermatic cord, and the communication with the abdomen to be quite free. The vomiting and sense of "obstruction" were relieved by the operation; but the patient died thirty-six hours afterwards, in a state of collapse, no hiccough having occurred, and the bowels not having acted.

Autopsy.—I regret that a thorough post-mortem investigation was not permitted, and that I was compelled to pledge my word that none other than the parts previously operated on should be examined, and that these should not be removed from the body. Dr. Booth assisted at the examination. To the eye and to the touch there appeared to be three testicles, two in the scrotum and one retained in the left groin. The inguinal canal and groin were now laid open. The proper inguinal canal contained, apparently, merely the cord, and was lined with a layer of recent lymph. In the groin was a tumor coated with lymph, which lymph was found to conceal a thin layer of blood-vessels and (what looked like) nerves, connected by a very fine membrane. This layer passed into the scrotum. The tumor proved to be an undescended testis, with its epididymis and cord. So far, then, with the exception of this nervo-vascular (?) membrane, the relation of parts was such as would ordinarily exist in a case of congenital inguinal hernia prior to the descent of the testis into the scrotum, and prior to the occlusion of the processus vaginalis from the general peritoneal cavity. The testis and epididymis were quite healthy, and neither of them wounded. No doubt "the fibrous membrane" covering the testis, which I divided on the occasion of the first operation, was the peritoneum, or, to speak strictly, the processus vaginalis, thickened as a hernial sac becomes thickened when long exposed; and the filaments which I evacuated, and mistook for "coni vasculosi," were a portion of the nervo-vascular (?) membrane which I have alluded to. I explain the reason of my not exposing the testis thoroughly at either of the operations thus:—The incision through the skin was a long one (and subsequently enlarged by a shorter one made at an acute angle). The deeper incisions were confined to the *upper portion of the wound,* and the intestine was reached without opening any sac of which I was cognizant. This, of course, is usual in congenital hernia. Having returned the gut thoroughly, the testis felt (through the remaining undivided layers of tissue) like a distinct tumor, as indeed it was, and I did not feel justified in doing more than making such a puncture or (if necessary) incision as should satisfy me as to its nature. I felt satisfied that the filaments which exuded on making this puncture were "coni vasculosi," and so made no further dissection. I was wrong, and no doubt my explanation may not be considered satisfactory. I rest satisfied with having done my duty to the best of my ability. It is impossible to place "old heads upon young shoulders" with any prospect of forming a successful combination. The testis was now removed from its position. Behind it we found a corrugated, crumpled-up, thick substance, coated with fibrine. The canal became contracted immediately below the testis, so as to form a neck, through which the substance just named passed, as also the film from the front surface of the testis. The finger could be passed through this contracted portion of the inguinal canal into the scrotum, and here the canal expanded into a globular cavity, which was filled with some membranous substance, which we presently examined. We laid open the scrotum, and exposed a glistening, oval, fibrous body, about the size, and having really somewhat the appearance, of a testicle. It had a neck too, which during life, and even on tactile examination after death, passed very well for a spermatic cord. We opened this curious body, and found it to be a strong fibrous envelope, about the eighth of an inch in thickness, lined with recent lymph, and containing a globular something, also coated with lymph. This indefinite something we found to be an undeveloped, highly vascular portion of omentum, crumpled up like a veil into a roundish mass, with a process or neck passing from it through the contracted portion of the capsule; the main portion then passing behind the testis, and becoming firmly attached to the spermatic cord and to the posterior wall of the inguinal canal, whilst a thin film passed in front of the testis, and contributed to form the "coni vasculosi," which I evacuated at my first operation. The fibrous envelope became much thinner at its neck, and gradually lost itself in the lining of the inguinal canal.

Remarks.—I take it that in this case the communication between the general peritoneal cavity and the processus vaginalis lining the inguinal canal and scrotum had never been closed; that a portion of omentum passed during fœtal life into this vaginal process prior to the descent of the testis; that the fibrous envelope consisted of peritoneum, fascia transversalis, and intercolumnal fascia, blended together and developed into a strong covering for the protection of the exposed portion of the peritoneal cavity and of the misplaced omentum; and that the testis remained in the groin, because its arrival in the scrotum had been anticipated and its place occupied by the protruded omentum. The canal of the processus vaginallis, when examined after death, was found to be contracted, first, at the internal abdominal ring; secondly, just above the testis; and, lastly, at the point where it formed the neck of the scrotal tumor. The contraction at the internal ring no doubt explains the reason why the hernia of the gut was not constant. I would again allude to the omentum. Is it possible that the testis passed, during fœtal life, between the layers of the great omentum? It certainly was between them when we examined the body. The appearance, too, of this omentum was very deceptive and peculiar. The thin film in front of the testis (in the groin, looked just like a number of veins and nerves connected by fine fibro-cellular tissue, but coated on the external surface with soft) recent lymph. Posteriorly, this fine, vascular membrane was, as I have said, corrugated and crumpled up into a rounded substance about the size of the little finger, which expanded above and became firmly connected with the spermatic cord and the wall of the inguinal canal, and likewise expanded below so as to form the globular mass found within the fibrous capsule in the scrotum.

I must again express my regret that we were not allowed to open the abdomen; and I shall be most happy to afford information on any points connected with the case which my readers may think it worth while to inquire about.—*Lancet*, June 15, 1861, p. 583.

Bibliographical Notices and Reviews.

A Report of the Sanitary Commission to the Secretary of War.

This report has just been laid on our table. That the reader may understand something of the Commission, we will briefly allude to its organization. This took place in Washington on the 12th of June last. The Commission was invested with no legal authority beyond that of inquiry and advice in regard to the sanitary interests of the United States forces. It was directed to inquire into the principles and practices connected with the inspection of recruits and enlisted men; the sanitary condition of volunteers; to the means of preserving and restoring the health, and of securing the general comfort and efficiency of troops; to the proper provision of cooks, nurses and hospitals; and to other subjects of like nature. Purely auxiliary and advisory, the Commission was created solely to give its voluntary aid to the Medical Bureau.

Being a voluntary organization, the Commission has had to depend entirely on the liberality of the people to pay current expenses. It received from all sources up to the 25th of November last, twenty-eight thousand one hundred and seven dollars. Of this sum the Life Insurance Companies of Massachusetts, New York and New Jersey contributed liberally. We give a list of

OFFICERS OF THE SANITARY COMMISSION.

President—The Rev. H. W. Bellows, D.D.; *Vice President*—Prof. A. D. Bache, L.L. D.; *Treasurer*—George T. Strong; *General Secretary*—Fred. Law Olmsted; *Associate Secretaries*—J. S. Newberry, M.D., J. Foster Jenkins, M.D., and J. H. Douglas, M.D.; *Assistant Secretary*—A. J. Bloor; *Actuary*—E. B. Elliott; *Accountant*—John Bowne.

STAFF OF INSPECTION.

ATLANTIC.

Associate Secretary—J. Foster Jenkins, M.D; *Sanitary Inspectors*—Lewis H. Steiner, M.D., Gordon Winslow, D.D., George L. Andrew, M.D., Wm. M. Chamberlain, M.D., George A. Blake, M.D., Robert Ware, M.D., and Henry K. Oliver, M.D.

CENTRAL.

Associate Secretary—J. S. Newberry, M.D.; *Sanitary Inspectors*—Godfrey Aigner, M.D., C. S. Griswold, M.D., A. N. Read, M.D., and W. M. Prentice, M.D.

WEST OF THE MISSISSIPPI.

Associate Secretary—J. H. Douglas, M.D.; *Sanitary Inspector*—Prof. Henry A. Warriner, M.D.

Inspectors Engaged in Special Duty.—Fred'k N. Knapp, Henry B. Rogers, Robert Collyer, Thos. B. DeWalden, J. B. Clark and W. S. Wood.

The Commission has been at some pains to ferret out, as far as possible, the sources of disease and their character in different regions.

In the army on the Potomac the constant average number of sick per one thousand (1,000) men has been sixty-three (63); in the department of Western Virginia, one hundred and sixty-two (162); in the Valley of the Mississippi, one hundred and sixteen (116). The constant average number of sick, east and west, has been, during the months of August, September and October, seventy-seven (77) per thousand.

A table is given of the number of diseases and casualties of each class and order to 1,000 cases treated. We have no room for the table. It amounts to this:

Of every 1,000 cases of disease and casualty occurring in the army of the Potomac, 611 were of the class called zymotic, comprising endemic, epidemic, and contagious diseases. 571 of these zymotic diseases were of the miasmatic order.

"In the whole British army, in time of peace, 6.5 per cent. of the force otherwise available, is reported constantly "in hospital." Of the British army in the Peninsula under the Duke of Wellington, 1808–1814, 21 per cent. (or 9,300 of an average force of 44,500 men) was constantly "sick in hospital." The number of sick ranged from 9 to 33 per cent. of the whole force at different periods.

"These rates were exceeded in the British army of the Crimea. To maintain 100 effective soldiers in the field, it there became necessary to provide for 26.6 sick men. The annual rate of mortality was 3 per cent. by wounds, and 20 per cent. by disease.

"The annual rate of mortality in the British army, at home and in time of peace, was from 1.1 to 2 per cent. in the ten years preceding 1847.

"The average mortality of the army of the Potomac has been, during the summer, at the rate of 3½ per cent. (allowance being made for those who die after their discharge from causes connected with army life). Imperfect data received from the west indicate a considerably larger rate for the whole army; probably it will not be far from 5 per cent., if sweeping epidemics should be escaped.

"Mortality from *disease*, in the Royal Navy of Great Britain, is 40 per cent. greater in time of war than of peace; rising from an annual rate of 15 or 16 to one of 37 or 38 per 1,000 strength. The principal increase of the deaths in the navy, in time of war, is from disease; the amount of increase from casualties being commonly quite inconsiderable.

"The following statement exhibits a classification of the cases of disease in the volunteer army during a portion of the campaign, showing, also, the per centage of casualties of all kinds (wounds, accidents, etc.) for the same period, compared with like returns from the army of the Crimea, from April 10, 1854, to June 30, 1856:

	Army of the Potomac.	Army of the West.	Army of the Crimea, April 10th, 1854, to June 30th, 1856.
Zymotic Disease, (per cent.)	61.1	76.4	69.8
Constitutional, "	1.2	.6	.5
Local, "	30.7	17.3	15.6
Developmental, "	3.4	3.5	.1
Violence, "	3.6	2.2	14.0
All cases	100.0	100.0	100.0

"Two most important facts appear on the face of this table: first, the immense disproportion between cases of disease and of violence, fully justifying all that has been asserted as to the loss an army in the field must expect to sustain from these causes respectively; and, secondly, the great excess of zymotic diseases, nearly all of which are, in a greater or less degree, preventible by proper precautions. For instance, typhus can be almost certainly averted by systematic attention to cleanliness and ventilation, small-pox by vaccination, and malarious diseases (intermittent fever, etc.) by quinine. It seems apparent, therefore, that it is within the power of Government by the action of the War Department to enforce rules that will diminish disease."

We do not exactly see the sanitary bearing of the following remarks:

"The opinion is often expressed by professional soldiers that an effectively disciplined army can never be made of volunteers, and that as undisciplined men can only be used in war in limited numbers, chiefly to preserve the fighting force from excessive fatigue, it is a waste of the public resources to keep a large volunteer force in the field. Many volunteers express, in effect, their acquiescence in this view, when they say, 'You cannot expect volunteers to be as particular as regulars'—an answer constantly given to the suggestions of the Inspectors, when they find a regiment the condition of which is in all respects disgraceful to its officers. To the consideration that this war is to be waged against volunteers, the reply of those who believe that only a large army of regulars can prosecute it to a successful end, is, that undisciplined forces are much better adapted for defensive than for offensive operations, and that volunteers can never be pushed to the heart of the rebellion, however they may hack at its extremities. This view is habitually sustained by those whose position entitles their judgment to be regarded with respect, and the question whether volunteers can be effectively disciplined thus becomes a serious one for the nation, and may be thought to give an importance to the information obtained by the Commission, aside from its sanitary bearing.

"Discipline is a habit of prompt and exact obedience under certain authority. Being a habit, it cannot be taken on, except by a more or less rapid process of acquirement. So long as progress is being made, a satisfactory state of discipline is not only to be thought yet possible of attainment, but it may be probable."

The Commission has exhibited a very considerable degree of industry in trying to see how far the disaster of Bull Run was due to the neglect or imperfect execution of sanitary measures. But it seems that those interrogated on the subject, and whose opportunities were best for knowing, expressed a great variety of opinions. It was attributed to hunger, fatigue, want of discipline in the troops, etc.

"CAUSE OF RETREAT.—The proximate cause of the retreat is variously assigned—to the attack of fresh reserves of the enemy upon our right—to the rapid and apparently wild return of the caissons for ammunition—to the appearance of a retreat of our cavalry, who were thought by some to be riding over our own infantry, the rear guard, at the same time, mistaking them for secession cavalry, etc. Certain more organic causes of the defeat are frequently stated.

"By some the defeat is attributed to the condition of the men, exhusted by excessive fatigue, and by want of sufficient food, drink, and sleep; by others, to a 'feeling,' on the approach of the fresh reserves of the enemy, 'of the total inadequacy of a small force to compete with superior numbers supported by masked batteries.' By others the defeat is attributed to 'causes involving the whole command; not due to previous exposure and fatigue, but to the bad conduct of the battle on the part of the leaders.' By others (regulars) the defeat is attributed to 'inefficiency of volunteers;' by one (German) to 'bad strategy and want of discipline.'

"Through all the regiments there appears to have prevailed the false idea of the vast superiority in point of numbers possessed by the enemy, together with a lack of confidence in the military skill of the leaders of the army of the Union, as compared with that of the leaders on the part of the rebels; also combined to a certain extent with a dread of meeting an invisible foe.

"GENERAL SUMMARY.—From these investigations, from official Reports of the Generals commanding, from published statements in rebel as well as loyal journals, from previous investigations of inspectors of the Sanitary Commission as to the condition of the troops, and from other sources, it is manifest that our army, previous to and at the time of the engagement, was suffering from want of sufficient, regularly-provided, and suitable food, from thirst, from want (in certain cases) of refreshing sleep, and from the exhausting effects of a long, hot, and rapid march, the more exhausting because of the diminution of vital force of the troops due to the causes above enumerated. They entered the field of battle with no pretence of any but the most elementary and imperfect military organization, and, in respect of discipline, little better than a mob, which does not know its leaders. The majority of the officers had, three months before, known nothing more of their duties than the privates whom they should have been able to lead, instruct, and protect. Nor had they, in many cases, in the meantime, been gaining materially, for they had been generally permitted, and many had been disposed, to spend much time away from their men, in indolence or frivolous amusement, or dissipation.

"It appears that many were much exhausted on reaching the field of battle, but that supported by the excitement of the occasion, they rallied fairly, and gradually drove the opposing forces from Sudley Spring to the lower ford, and from the lower ford to beyond the Stone bridge and the Warrenton road; that, at this time, (half-past three,) when congratulated by superior officers, and congratulating themselves on having achieved a victory, and when having repulsed reinforcements sent from the extreme right of the enemy to support their retreating columns, they were just relaxing their severely-tried energies, there appeared in the distance 'the residue' of the forces of General Johnston, (see McDowell's report, Dr. Nott's letter to a Mobile paper, and correspondence of Charleston Mercury,) a single brigade (Elsey's coming from the Manassas Gap Junction railroad, marching a double-quick to engage our troops at the right who had been hotly fighting unrelieved by reserves during the day. This brigade, joined with the two regiments of Kershaw and Cash, 'turned the tide of battle.' (See in Richmond Dispatch, July 29, statement 'of a distinguished officer who bore a conspicuous part on the field of battle on the 21st of July.')

"Our troops, ignorant of the fact that they had been contending against and repulsing the combined forces of Beauregard and Johnston; and believing that this inconsideral remnant of Johnston's forces which they now saw approaching to be his entire column; and feeling their inability, without rest or refreshment, to engage an additional force of fresh troops nearly equal in number to those with whom they had been contending during the day,—commenced a retreat, not very orderly, but quite as much so, at first, as had been the advance in which they had driven back the forces of the enemy. Their (nominal) leaders, who too often had followed them in battle, were, in many cases, not behind them on retreat.

"As they retired, however, a sense of disintegration began to pervade their ranks; each ceased to rely on his comrade for support, and this tendency was augmented by the upturned wagons blocking the road, which served to completely break the imperfect columns.

"The reports of the inspectors give no evidence that the panic infected the extreme left, or the reserves, to any sensible degree. It was uncontrollable only with a part of the troops on the extreme right, among whom it originated. Many at the center and the left were surprised when the order came to retreat, and for a time considered it as merely an order to change position in view of a still further general advance. Some officers state that they 'warmly remonstrated'—'too warmly, perhaps'—when they received the order to retire.

"The returns of the inspectors are not conclusive on this point; but from the result of subsequent specific inquiries by Mr. Elliott and the Secretary, it can be stated with confidence that indications of terror or great fear were seen in but a comparatively very small part of the retreating force. Most trudged along, blindly following (as men do in any mob) those before them, but with reluctance, and earnest and constant expressions of dissatisfaction and indignation, while no inconsiderable number retained, through all the length of the privation and discomfort of their dreary return to Washington, astonishing cheerfulness and good humor, and were often heard joking at their own misfortunes, and ridiculing the inefficiency of their officers. The Germans of the reserve were frequently singing. None of the reserves were in the slightest degree affected by the panic, and their general expression with reference to the retreat was on of wonder and curiosity.

"The reserve nevertheless, suffered much from fatigue, and subsequently exhibited most decided demoralization."

The American man is a compound of Anglo-Saxon, French, Spanish, Italian, Irish, German. His capacity as a warrior may be inferred from his origin, or from his own brief history, as he has demonstrated himself on several occasions. Tested by either he is courageous to the last degree. Not only courageous, but persistently so. But that such qualities are at once developed so as to be equal to every emergency, with reference to which he may be called upon to act, is quite another question. The acts of peace smother down and keep in abeyance many natural traits of character, and continued long they almost exercise an eradicating influence. Warlike capacity in an individual or in a nation, diminishes just in proportion as the requirements of social quiet life are cultivated. A nation at peace for a long time becomes effeminate loses its natural or physiological qualities. The process of making soldiers is simply the laying off of habit, instead of the putting it on, as has been supposed. Our army man in the field is undergoing the transition from citizen to soldier. The process involves heavy, and in many instances fatal draughts on vitality. Many fall by the way, simply for want of capacity for the change. With forces sufficiently strong for the ordinary duties of civil life, they nevertheless become an easy prey to the diseases that follow exhaustion, loss of rest, exposure, and anxiety of mind. In view of such facts the business of inspecting troops becomes one of the first importance to the welfare and efficiency of military enterprises. Merely looking at men by companies amounts to nothing. Every man who presents himself for the duties of a soldier should have his history investigated from childhood.

"A limited examination of the diseases of the army indicates that the largest proportion of those of typhoid type occur with regiments sleeping on rubber blankets, the least with those on straw or boughs; the largest proportion of catarrhal, with regiments on wooden floors, the least with those on the ground; the largest of rheumatism, with those on wood, the smallest with those on straw or boughs; the largest of malarial, with those on the ground, the least with those on straw or boughs.

"As had been presumed by the Commission, it has been proved that the best bed for soldiers in camp, can, with a little skill, be formed from fir or cedar spray, whenever it can be obtained in sufficient quantity. The Inspectors have from the outset been instructed to advise its use whenever practicable. It should be frequently removed and burned, after a thorough cleansing of the tent floor, the tents being struck for the purpose.

"Experienced officers generally object to the board floors in tents. They are thought to be more damp than the ground itself and they offer an opportunity for the collection of rubbish and dirt, and make them difficult of removal."

We close our brief notice of this Report by bearing our testimony to the faithfulness concerned in getting it up. The facts developed by it are, many of them, important. Those that reflect unfavorably may be inseperable from the hasty organization of the army. Much may be excusable on this ground—still the inattention of such a large proportion of regiments to the plainest maxims of health, cannot fail to awaken the most anxious hopes, that the Commission may go on in the work it has undertaken. The Life Insurance Companies of the country understand the importance of the Commission so far as their interests are concerned, and hence their liberality in sustaining it. But such are the lowest of impulses that ought to favor its support. The spontaneous sense of sympathy will without doubt speak out requiring it to go on in its humane work.

In this connection we insert the following, from a paper read before the Sanitary Commission by E. Y. Robbins, Esq., of Cincinnati:

"THE MORTALITY AMONG OUR TROOPS—HOW TO DECREASE IT.—In the late report of the Secretary of the Sanitary Commission, the mortality in our army up to December is estimated at 5 per cent, or 50 in 1,000 men. Is this a high or a low death rate? Vital statistics show that in civil life the mortality among young men of the age of our volunteers is not more than about 7 in 1,000 annually; so that our soldiers, dying at the rate of 5 per cent, or 50 out of 1,000, die fully seven times as fast as they should die, or seven times as fast as they would have died if they had remained in their former occupations. Supposing our army to consist of 600,000; there would at this rate perish by disease during twelve months not less than 30,000, or fully 26,000 more than should die. Unquestionably the winter and spring months will show a still larger rate of mortality. What is the cause of this? Is it the food they eat? Doubtless, to some extent. Fat pork is not the most sanitary food, nor several other articles consumed in the army. Is it sleeping upon the bare ground? Doubtless, to a considerable extent. This has been asserted to be the chief cause. But the statistics of the above mentioned report show that this is an error: the sickness in regiments sleeping on the ground being, on the average, less than 20 per cent. greater than among those who sleep on board floors, whereas the extra mortality in the army above that, among young men of like ages in civil life, is fully 700 per cent. This, then, will account for only 1-35th part of the excessive mortality in the army. Is it want of sufficient blankets and other clothing to keep them warm? Doubtless, again, to some extent, though how far it is difficult to determine. Is it the malarious influences of the atmosphere and the soil of the country where camps are situated? These localities would certainly not be likely to be chosen, worse in this respect than the average of country districts, and statistics show that the death rate in the country is much less than in the cities. We are too apt to throw the blame of our diseases and sufferings upon nature, rather than upon our own ignorance and folly.

"When the British troops in the Crimea were dying at a higher rate than the inhabitants of London died during the great plague, many people talked wisely about the deadly air, and the winds of the Black Sea and the Bosphorus. But events proved that it was not the air that was doing the mischief, but the want of it. The commissioners to the British army, as well as the highest medical officers of the French army declare that the chief cause of the great mortality in those armies was the crowding and want of ventilation in tents and hospitals. The chief remedies that checked the ravages of disease in the British army were increased ventilation and cleanliness, and the enlarging of hospital accommodations so that the sick could be scattered and have more room and air space. As the result of these and other improvements, the British army in the Crimea became healthier than the troops at home, the mortality being reduced to about ten in one thousand, annually, which is only about one-fifth the mortality among our own troops. In the French army, no such sanitary reform took place, and the health of the army grew worse to the end, though they were encamped on the same field, with similar conditions of service and atmospheric influence, and the Government hastened to negotiate a peace, less the army should be conquered, not by the Russians, but by disease.

"Now what is the condition of our own troops in regard to air, space and ventilation in tents and hospitals? They have only seven or eight tents usually to a company, so that twelve or fifteen are crowded into a space not large enough for five, or indeed for three persons to sleep healthily. In these tents each person has less cubic space often than had the wretched persons in the black hole of Calcutta. In our barracks, also, they have usually only about one-sixth part as much air space as the experience of European armies has proved to be necessary to the health of soldiers.

"And yet every means of ventilation is usually shut up at night for the purpose of excluding the cold. The sick are crowded into our hospitals four or six times as densely as is permitted in the hospitals of England.

"We talk about food; but air is the dish we must feed upon each minute. And yet we eat of this dish, and then throw the poisonous and filthy products of the digestion of it back into the general stock of provisions—the reservoir of air in the room—to be again taken into the system. And all this because the air is invisible, and because we cannot see these poisonous and filthy products of respiration and perspiration. We talk about cleanliness, and it is well; and while we keep our clothes and floors clean, yet in regard to the air we practice the utmost degree of filthiness; those exhalations from the lungs and skin being as truly excrementitious, in their nature and being as filthy and poisonous as the matter discharged by any of the other excrementory organs of the body. We are conscious, though perhaps not sufficiently so, of the ill effects, and the filthiness of breathing the exhalations of cesspools and other receptacles of filth; and yet the most distinguished writer on physiology in the English language remarks that the prutrescent exhalations from the living human body, in crowded and unventilated rooms, resemble very closely in their nature the effluvia arising from privy vaults, swine slaughter houses, and manure factories, and that they are at least as efficacious in generating disease. How then could we expect that our soldiers should be healthy, crowded together as they are in tents and hospitals and without any sufficient ventilation.

"Men cannot support health and strength on such a scanty supply of air and of such a quality, any more than they can maintain health and strength on half rations of food, or on food that is damaged or adulterated.

"And what is the remedy? Give them more room and as much ventilation as practicable, supply more tents and increase the hospital accommodations. This will cost something. But boards and canvas are cheaper than human constitutions and human lives. Every man that dies in the army now is a pecuniary loss to the Government of perhaps two or three hundred dollars. Moreover, to maintain an army of 600,000 efficient men the Government must now support 650,000, that is the well part of the army must be burthened with 50,000 sick. Which, then, would be the cheapest, setting aside the suffering and sorrow consequent upon sickness and death—which would be the cheapest, to furnish additional accommodations or to support all this loss and encumbrance. Whether it is cheaper to have an army of well men or an army of sick ones; 300,000 men brought up to such a state of health, activity, strength and endurance as by proper training and sanitary appliances they might be brought to, would be as efficient as 600,000 such as we now have, and yet only cost the Government half as much.

"Again, our method of warming hospitals and tents needs to be entirely changed. Stoves are an abomination and should never be used. This is the verdict of all, both in Europe and this country, who understand the principles of Sanitary science."

The Principles and Practice of Obstetrics. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the University of New York. Author of Clinical Lectures on Diseases of Women and Children. Illustrated by four colored Lithographic plates, and ninety-nine Wood engravings. New York, S. S. & Wm. Wood, 389, Broadway. 1861.

This purports to be a systematic treatise arranged with reference to the wants of students, to whom it is dedicated; and it is so well up to the times as to be a very nice thing for the practitioner. Throughout the work the author seems to have aimed at conservative midwifery. Extreme views have been eschewed, and there has been an endeavor to inculcate upon the accoucheur a due reverence for the resources of nature.

There are some questions in midwifery in regard to which there is still some diversity of opinion.

Among these is the one relating to *Embryotomy.* This is one of the highest questions in obstetrical science. In it much is involved relating to all parties, mother, child, and practitioner. The author treats it in a way that is very careful. Of course the only justification that can be alleged for the operation, is such a disposition between the maternal organs and fœtus as to render it physically impossible that the latter can be made to pass either through the natural effort by the aid of the forceps, or version, supposing the woman to have arrived at the full period of gestation. Should the antero-posterior diameter be less than 2 to 2½ inches the author regards the operation as unsafe to the mother unless the child is dead and more or less decomposition has taken place. Again, a general principle is, that a living child cannot be delivered with a pelvic diameter under 3½ inches. Under such circumstances the author resorts to the Cæsarian section.

> "My own action under these circumstances would be a preference for the Cæsarian section over the mutilation of the child. I believe an early resort to the Cæsarian section would, with the aid of anæsthesia, diminish its dangers in contrast with embryotomy as absolutely to render it of the two expedients but little more fatal to the mother, while instead of the necessary destruction of all the children a very large portion of them might be saved, for you are not to forget that under the most favorable circumstances only one in every 3½ of the children is lost in the Cæsarian operation."

The *corpus luteum* of the ovary was at one time supposed to be an evidence of positive previous gestation, and the number of these bodies it was also supposed represented the precise number of children borne by the parent. These opinions have been given up, and the following may be regarded as the points most entitled to confidence.

> "1. A corpus luteum in its earliest stage (that is a large vesicle filled with coagulated blood having a ruptured orifice, and a thin layer of yellow matter in its walls) affords no proof of impregnation having taken place. 2. From the presence of a corpus luteum the opening of which is closed and the cavity reduced or obliterated only a stellate cicatrix remaining, also no conclusion as to pregnancy having existed, or fecundation having occurred can be drawn. if the corpus luteum, be of small size not containing as much yellow substance as would form a mass the size of a pea. 3. A similar corpus luteum of larger size than a common pea, would be strong presumptive evidence, not only of impregnation having taken place but of pregnancy having existed during several weeks at least, and the evidence would approximate, more and more to complete proof, in proportion as the size of the corpus luteum was greater."—*Muller's Physiology.*

As there are two classes of *corpus lutea,* one the result of menstruation, the other the result of impregnation, it becomes a matter of some importance to distinguish them. Prof J. C. Dalton, has perhaps given the profession the most able paper on the diagnosis.

> "The corpus luteum of pregnancy arrives more slowly at its maximum of development, and afterwards remains for a long time as a noticable tumor, instead of undergoing rapid atrophy. It retains a globular or only slightly flattened form, and gives to the touch a sense of solidity and resistance. It has a more advanced organization than the other kind, and its convoluted wall is much thicker. Its color is not of so decided a yellow, but of a more dusky hue, and if the period of pregnancy is far advanced it is not found like the other in company with unruptured vesicles in actual process of development."—*Transactions of American Association*, 1851.

We have stated that this work is very well up to the times and that it is arranged so as to suit the student and accoucheur equally well. We notice, however, some peculiarities that pertain to the author. These are very obvious everywhere, but most so in the portions of the work that are controversial.

Report of the Central Ohio Lunatic Asylum for 1861.

This report has been on our table for some time, but until now we have had no leisure to look through it.

The annual reports of our Benevolent Institution, must always be a source of interest to the public and to the medical profession. In the one before us we notice but little for special consideration. The Trustees regard the Institution as being in a prosperous condition, and from the report of the Superintendent the curative department is also prosperous.

Table one shows the daily average of patients, during the year, to be two hundred and sixty-two (262). It also shows the percentage of recoveries during the year to be 63.31.

The statistics of the Institution, from its organization until the present, are also given, in which it appears that the *average* percentage of recoveries (based on admissions), for a period of twenty-three years, is 51.85. We also find that the average percentage of recoveries, during the last four years, the period that the present Superintendent has had charge, is a little more than 57. These figures are striking. They show that Dr. Hills, the present Superintendent cures annually 12 per cent. more of his cases, than are cured in the oldest and best regulated institutions of Europe. How is that? How?

In commenting on the Causes of Insanity, the Superintendent embraces the occasion to ventilate some of his animosity towards that old "evil genius," Alcohol. Now, we have not the least misgiving about alcohol occasioning directly and indirectly a good deal of trouble. But it should have justice done to it in the premises. We should recollect that it is a very convenient scape-goat; one nearly always present in the patient or his progenitors.

Physiologists are not exactly agreed on the effects of alcohol. They are also getting further and further from old opinions. It seems pretty reasonable that alcohol stimulates and strengthens the nutritive function. Quite a proportion of practitioners entitled to respect bear such testimony. Its value in the treatment of phthisis is supposed to be explicable upon its sustaining properties. We have no evidence that, taken in stimulating quantities, it would be more likely to rupture the fibres or cells of the brain than a fit of passion of any kind. The abuse of alcohol, like the abuse of articles that enter with the food and make up a part and parcel of the organism, often becomes a source of disease and may destroy life. Such a fact, however, no one, not demented, would lay stress on.

Insanity is looked upon as involving primarily the cerebrum because this portion of the encephalon is the seat of Reason. Alcohol only affects this part of the brain, when its influence is felt at all in the organ, incidentally. Its greatest impression is on the cerebellum, the " coordinating " organ.

In seeking then, for the causes of insanity, so rife in our land, it might be suggested to the chevaliers who have been " shivering Quixotic lances" at the old alcoholic ghost, to hold up a little.

The truth is we are being bluffed off of our old favorite hobbies. The most trustworthy researches into the condition of humanity throughout the world with reference to insanity, establish the melancholy fact that it increases in a direct ratio with the progress of civilization. Barbarous nations have little or none of it, though they all use stimulating and intoxicating drinks ; while nations engaged in building up the higher orders of civilization suffer most.

We must look then into the nature of our civilization for the causes of insanity. Would it not therefore, be well for the chevaliers to begin this inquiry by seeing how much is due to the premature and excessive training that obtains in our schools and colleges. With this as a base line for operations something nice may turn up.

Editorial and Miscellaneous.

COMMENCEMENT.—The Commencement exercises of Starling Medical College were held on Monday evening, the twenty-fourth of February, in the Westminster Church. The Commencement Address was delivered by the Rev. J. W. Grammar ; the Valedictory to the class by Prof. Loving. The degree of Doctor in Medicine was conferred on eleven gentlemen. Their names, etc., will appear in the Catalogue.

STATUS OF THE AMERICAN MAN.—The Commissioner of Statistics of Ohio says that Prof. Henry and himself have been several years engaged in defining the American man by accurate measurement. He presents only such of these as go to describe accurately the men of Ohio. For this purpose he gives the measurements of 300 farmers, miners and laborers in several counties; of 230 others in eleven villages; and five companies of Kennett's Cavalry—all native Americans. The following appears to be the general result of these measurements: That the man of Ohio is five feet nine and one-third inches high, and is *taller than any European nation* of which there are measurements. He is taller than the Belgian by several inches, taller than the English, and even than the Scotch Highlanders. The Highlanders, however, exceed the American *round the chest,* and are, on the whole, the stoutest. In complexion, eyes and hair, the *light* predominates over the dark. The prevailing hair is brown, and the prevailing eyes gray or blue. In one word, the native American is a *modified* German of the time of Tacitus, and such he ought to be, from his antecedents.

We are inclined to think these estimates will turn out to be incorrect. They make the men in Ohio too tall. A man five feet nine and one-third inches is too much for an average.

AMPUTATION OF THE CERVIX UTERI is the title of a monograph forwarded to us by I. Marion Sims, M.D., Surgeon to the Women's Hospital, New York. The paper was read before the State Society last year. Lisfranc was in the habit of performing this operation for what he considered incipient carcinoma. Recent researches, however, leave doubts about the character of his cases—they being simply inflammation with induration and hypertrophy of the cervix. From what we hear, Hugier of Paris now performs the operation oftener than any one else.

The operation is performed by the knife, scissors, and ecraseur. But the point of interest in the paper before us is the *method* of operating, which we give:

> "When the patient was fully under the influence of ether * * I removed about five-eights of an inch (cervix) cutting at right angels and within half an inch of the vaginal insertion. On beginning the operation I expected to leave the cut surface to heal by the granulating process which usually takes five or six weeks, but before sponging the wound, and while waiting for the hemorrhage to cease, I discovered that the cut surface could be covered with vaginal tissue, in the same manner that the stump

of an arm or leg is covered by skin after amputation by the circular method. This was done by passing four sutures of silver wire through the anterior and posterior borders of the wound, which when tightly drawn brought its edges into apposition in a straight line across the middle of the stump covering it completely , but leaving a small central opening for the os just over the outlet of the cervical canal. The operation was followed by no constitutional disturbance. The sutures were removed at the end of a week, the parts having healed entirely by the first intention."

Other cases are related of equal success.

The advantages of this method are seen, the author suggests, in the speedy recovery. In the old method the suppuration continued five or six weeks ; in this no suppuration, the patient getting up in a week or ten days. In the former or old method a great risk of degeneration of tissue ; in this little, if any, generally none.

No impediment to menstruation occurred in any of the cases, though the os was smaller than natural.

Surgeons generally understand that in amputating the tonsils it is unnecessary to cut out the entire gland, the removal of a section will suffice, the remainder will disappear by absorption. "So in amputating the cervex uteri, it is not necessary to cut it off even with the vaginal insertion to insure a good result ; if half an inch of it be left it will decrease by modified nutrition."

THE LATE BATTLE AT FORT DONELSON.—On the receipt of the news of the battle at Fort Donelson a large number of medical men from Ohio, Indiana, and Illinois, with quantities of Hospital stores proceeded to the scene of distress. Every thing likely to be needed for the sick and wounded, was taken forward in great abundance. The steamer Collier was chartered at Cincinnati, especially for the service of transport to Fort Donelson.

Surgeon-General Weber, under orders from Gov. Tod, went forward to take charge of Ohio troops.

ETHER.—*Patent Right* don't seem to hold good for ether as an anæsthetic. The State District Court of New York, has declared the patent obtained by Dr. W. T. G. Morton, for the exclusive use of ether to be "void and the subject not patentable."

GOOD OPPORTUNITY.—The medical men, now in the service of the country as Surgeons, have an opportunity of adding very much to present knowledge as regards army diseases and gun-shot wounds. We do hope the privilege may be improved. McCleod has given us lately a very handsome volume on the Crimean war. But we are now having the material presented, which, if properly cared for, will be a treasure. We publish in this number a communication from R. N. Barr, M.D., on the diseases and casualties of the army in Western Virginia. The paper is a contribution to medical literature, as going to show the habitudes of typhus fever. We hope for the experience of others. How nice it will be to survive the hardships, privations and dangers, but nicer still to come home when the war is over with the consciousness of having improved the occasion.

WE have again to apologize to our readers for delay in the appearance of the JOURNAL. The fault was not ours. Our printer, generally so prompt, was disappointed in getting paper. In these times there is a little trouble in always "making connections."

NEW BOOKS.—Just as we are going to press, we find on our table—

Gross' Surgery. Second Edition. Blanchard & Lea. 1862.

Gray's Anatomy, Descriptive and Surgical. Blanchard & Lea· 1862.

Guthrie's Commentaries on the Surgery of War in Portugal, Spain, France and Netherlands. J. B. Lippincott & Co. 1862.

These works will receive a notice at our earliest convenience.

DR. JOSEPH BELL, in the Glasgow Medical Journal, recommends the application of cotton wool, saturated with the Linamentum Aqua Calcis, in the same manner as it is used in the treatment of burns, for the purpose of arresting the development of variolous pustules, and consequently preventing unsightly deformity. He states that he has used the application successfully in a large number of cases.

CASE OF EPILEPSY, PRESENTING PECULIAR FEATURES, SUDDENLY AND REMARKABLY RELIEVED BY THE USE OF ARSENIC.—Dr. Bristowe has at present under his care, at St. Thomas's Hospital, an epileptic lad, whose case is interesting, both from certain peculiarities in the symptoms, and from the success which seems to have attended the treatment employed.

The patient is a shop boy, 14 years of age, who has been subject to epileptic fits for upwards of two years. They came on without obvious cause, and at first were always nocturnal. They increased gradually, so that after a time he generally experienced two or three every night, and often one or more in the day. In May last he was admitted into the hospital, where he remained four months; and under the treatment there employed so far improved that during the latter part of that time, and for the following three months, the fits recurred only about once a month. A week before his last admission, however, they came on again suddenly, and with great severity. For the first three or four days of this time the fits followed one another night and day with great rapidity, but he had intervals of consciousness. For the last three days, however, the fits were still more frequent, and he continued between them in a state of insensibility. He was admitted on November 13 in the condition just described, but in so utterly prostrate a condition that his speedy death was anticipated. With the aid of a purge and of a blister to the neck he emerged from this critical state, and became quite conscious. The fits, however, though rendered less frequent, did not cease, and he was ordered to take two grains of sulphate of zinc in infusion of valerian three times a day. From this time up to December 7 the above line of treatment was pursued, the dose of sulphate of zinc being gradually increased to ten grains. During the whole of this period, however, his condition was a peculiar one. His lower extremities, which previously had been healthy, were feeble and uncertain in their movements, like those of a paraplegic patient, so that he was unable to walk; but there was no anæsthesia. He was therefore in bed, and for the most part in a semi-recumbent posture. But it was observed that whenever he tried to turn or otherwise move his legs, and especially, therefore, if he were made to get out of bed, a peculiar numbness or sensation of "pins and needles" crept from the toes upwards, and was followed in a few seconds by a fit—the fit lasting for about half a minute only, and being preceded by a prolonged and distressing scream. The truth of the statement just made was repeatedly verified by Dr. Bristowe. It was ascertained, however, that after a fit had been thus produced he enjoyed a perfect immunity for about a quarter of an hour, during which time he might move about as he pleased without any ill results; and it was further ascertained that by careful management he could, and usually did, prevent the occurrence of any fit during the day. They took place, however, frequently in the night, always preceded by a scream, and they increased in frequency nightly, so that on the night of December 6 they were so numerous that his constant screaming prevented any of the patients in the ward from getting rest.

On the next morning (the 7th) the medicine he had hitherto taken was ordered to be omitted, and five drops of liquor arsenicalis with compound infusion of gentian thrice daily were prescribed. He had no fit the following night, and none during the succeeding eight days. For two or three days he still suffered from occasional attacks of a numbness in the leg; these feelings, however, quite disappeared, and he recovered completely the use of his lower extremities. On the afternoon of the 16th he was visited by his mother and several of his friends who remained with him for some time. Almost immediately after they left him, the fit returned, and between five and ten P.M. came on every ten or fifteen minutes. During the night he had two; and during each of the two following nights he also had one or two attacks. From the 18th, however, up to the present date (the 31st), he had continued entirely free, and apparently quite well.

There are a few particulars to be added to the case. The boy was, and is, pale and anæmic-looking, but his digestive functions seem naturally performed; he has no cardiac or pulmonary symptoms. He is quite intelligent, and so far as can be ascertained has no spinal or renal disease. The mode of access of the fits, the way in which they could be produced at pleasure, and the way in which their occurrence could, during the daytime, be prevented, are all interesting, but do not perhaps call for special comment. The effects of the arsenic were, however, so sudden and so remarkable, that in order to show they were not fallacious, a few words seem necessary. It will be observed that the fits were nocturnal, and that they increased in severity up to the very night before the change of medicine was made. The change of medicine, further, was effected without calling his attention to the fact, or to the probability or possibility of any special effect from it; so that the sudden disappearance of the fit could scarcely have been due to any mental impression, and could scarcely have been a mere coincidence. It will be observed, too, that though the fits themselves ceased at once, the aura persisted for a time, and, further, that even after the latter had disappeared, the liability to have fits from any excitement continued; both of which points are quite compatible with the view that the amendment in this case was due to the use of arsenic, and indeed favor it.—*Med. Times and Gazette,* Jan. 11, 1862.

CLINICAL REMARKS ON PLEURISY.—*By Dr.* JAMES JONES, *of the Metropolitan Free Hospital.*—It is unnecessary to remark on the great frequency of pleurisy. The fact that scarcely a thorax can be found in and after adult age, in which adhesions do not exist in some portion of it between the pulmonary and costal pleuræ, is sufficient to demonstrate its frequency. The generality of those cases, however, are what may be denominated simple adhesive inflammation of the pleura, unattended by effusion of serum in sufficient quantity to give physical indications of its presence. It is, perhaps, not generally known, however, to how great an extent pleurisy with effusion in sufficient quantity to give rise to compression of the lung to a degree sufficient to arrest its functions, prevails amongst the ill-clad, under-fed, intemperate operatives at the east end of London. The out-patients' room at this hospital is seldom without several well-marked cases of this kind. They continue to attend as out-patients, and get well under the most unfavorable circumstances. These cases, when compared with those which occur amongst the well-fed, well-cared-for middle classes, would almost induce the belief that the diseases were different. But is it not the circumstances of the patient which influence the course of the disease? In the well-fed patient, there is generally an amount of plethora, a condition of hyperæmia, which tends to effusion. The over-burdened vessels find relief by a disgorgement of the more fluid parts of their contents into the pleural cavity. The same condition tends to check absorption when the more acute stage has passed off. In the half-starved patient, on the other hand, the ill-supplied vessels have no inducement, so to speak, to get rid of any portion of their contents, and, if forced to do so by the severity of the inflammation, they are always ready (and willing) to reabsorb it. How far the results of the same disease in two opposite conditions of the system may bear upon the treatment by venesection and other modes of depletion, is worthy of grave consideration. Have we not, in disusing venesection in pleuritis with plethora, given up a remedy capable of accomplishing much, and, if used with judgment, unmixed good? Is the disuse of venesection a necessary corollary of the supporting treatment of the present day? We resort to mercury, iodine, and other drugs to promote absorption. Do we not, in giving up venesection and depletion, deprive ourselves of a far more powerful and much less hurtful agent than any or all of those which we now employ? I do not wish to be understood as advocating the return to the use of copious, and frequently-repeated bloodletting, which, by destroying the vital stamina of the patient, either hastens his death, or, if he be so fortunate as to escape with his life, produces an amount of debility which leads to a slow convalescence. Moderate bloodletting, by reducing the mass of fluid in circulation, tends to encourage absorption, the early and rapid accomplishment of which is of so great importance in pleurisy. The ill-fed man, with a condition of the circulation the opposite to plethora, recovers from an attack of pleurisy which, in the plethoric, is sufficient to destroy life. The first case is interesting as an example of severe pleurisy running through all its stages, unmodified by treatment. It presents several points of much interest, especially with reference to paracentesis.—*Med. Times and Gaz.*, Jan. 18, 1862.

BENEFACTIONS TO HOSPITALS.—Madame Jenny Lind Goldschmidt, on leaving Bristol recently, inclosed a check for £310 18*s*. 2*d*., being the proceeds of a concert, to the mayor, with the request that he would distribute it in equal moieties between the Bristol Royal Infirmary and the Bristol General Hospital. Mr. Crawshay, of Montague Street, Russell Square, has presented a donation of £500 in aid of the funds of St. Mary's Hospital. The late Henry Batten Pool, Esq., of Road, has bequeathed to the Bath Eye Infirmary, £1000; to the Bath United Hospital, £1000. The late Mr. Joseph Garnett, of Newcastle-upon-Tyne, has bequeathed legacies to the following charitable institutions of the town and district: the Infirmary, £500; the Dispensary, £250; the Eastern Free Dispensary, £250; the Eye Infirmary, £250; the Lying-in Hospital, £250; the Fever Hospital, £250; the Northern Institution for the Deaf and Dumb, £200; the Royal Victoria Asylum for the Blind, £200; Gateshead Dispensary, £250.—*Lancet*, January 11, 1862.

SUICIDES IN FRANCE.—The average number of suicides each year in France, according to the *Annuaire Encyclopédique*, is 3899, of whom only 842 are females. It is in April, May, June, and July, that they are most frequent; and the age of the greatest number of persons committing them is from forty to sixty. Of the total, 2833 are accomplished by strangulation or drowning, 271 by suffocation with the fumes of charcoal, 395 by firearms, 153 by sharp instruments, 110 by leaping from high places, 98 by poison, and the rest by different means.—*Lancet*, January 11, 1862.

PROF. RIBERI OF TURIN.—This eminent surgeon died very rich. He was born of poor parents By his surgical abilities, he was made professor of clinical surgery at 32. He was the friend and physician of Charles Albert, and was with him at his death. He also obtained the confidence of Victor Emmanuel. His reputation was very extensive. He was unmarried, and devoted all his time to study and practice. He is said never to have gone but once to a theatre. The greatest part of his large fortune was devoted as legacies to different medical charities. He left an annual sum of 2,500 *francs* to the Hospital S. Giovanni, to keep up the surgical anatomical museum which was there founded a year ago at his cost. He established a bursary for a student of medicine of the valley of Stroppo, his native place; also a rental of 1,000 *francs* to be given every twenty months to the most deserving member of the military sanitary corps; also a triennial prize of 20,000 *francs* to be awarded by the Medico-Chirurgical Academy; and numerous similar legacies. The remainder of his fortune—a million of *francs*—falls to his nephew, a law-student. His funeral, very different from his simple mode of life, was splendid; the municipality of Turin gave him the same honors as they gave to Cavour, decreeing the fixing of a marble tablet over his dwelling, and a grant of land for his burial-place. A national subscription is now opened for the erection of a monument to him.—*British Med. Journ.*, Dec. 14, 1861.

DIAGNOSIS APPLIED TO FEES.—A Paris physician dismissing from his consulting-room a well-dressed gentleman, the latter slid a piece of money into his hand. The old practitioner immediately diagnosticated by its weight that it was but a piece of 2 francs, however suitable its size might have seemed. He took no notice of the circumstance, nor even looked at his fee, but returned it, quietly observing, "You have made a mistake, sir; you do not owe me 40 francs, but only 20."—*Med. Times and Gaz.*, Feb. 1, 1862.

DEATH FROM INHALATION OF CHLOROFORM AT LISBON.—For the benefit of those who collect such accidents, we just allude to this unfortunate case, which was observed at Lisbon as far back as 1859. It is reported in the *Journal de la Société, &c., de Lisbonne*, and quoted by the *Gazette Médicale de Paris*, 4th Jan., 1862. The patient was a feeble subject, who was to have two cysts, one of the lid and the other of the tongue, removed. Two drachms of chloroform were poured on some lint, and hardly had he begun to inhale than he was dreadfully excited. Immediately on the subsidence of the convulsive movements the patient fell into a collaps, and had three violent *fits of sneezing*, upon which the heart ceased to beat. Breathing took place several times afterwards, at long intervals, and at last completely stopped. It was the first case at the San Jozé Hospital.

LOCAL ANÆSTHESIA.—Dr. Fournier has addressed to the Academy of Sciences a paper on the subject of Local Anæsthesia, and details a new process for its production, which is called "Chloracetization." His method for producing local insensibility to pain is that of exposing the part to be acted on to the fumes of a mixture of acetic acid and chloroform. "If," he says, "in a room, the temperature of which is upwards of 63° Fahr., the mouth of a thin glass bottle, half filled with a mixture composed of equal parts of pure crystallizable acetic acid and chloroform, be exactly applied to a clean and healthy skin, not deprived of its epidermis, and if this phial be constantly maintained at the temperature of the hand, complete anæsthesia of the part included by the orifice of the bottle will be attained." M. Fournier proposes to utilize this discovery for surgical purposes by directing the vapors of the chloro-acetic compound upon the parts to be rendered insensible to pain by means of a retort, the rest of the limb being protected by diachylon plaster from the benumbing action of the anodyne emanations; and suggests the employment of his method in those cases where general anæsthesia may be deemed inadmissable.—*Lancet, Jan.* 4, 1862.

POTASSIO-TARTRATE OF IRON IN RHEUMATISM.—Rheumatism is one of those affections which at times resist all the ordinary modes of treatment in use, though occasionally it will readily yield to a remedy not commonly employed in that affection. This result we have observed in a case under Dr. Willshire's care, in the person of a somewhat pallid girl, Frances S———, aged twenty years, who was admitted on the 26th November last, with rheumatism of of an erratic character, the pains flying about, as it were, to various parts of the body. To this she had been subject for the last three years, and nothing seemed to produce any marked improvement; she was, therefore, ordered a mixture containing the potassio-tartrate of iron, which has produced a decidedly beneficial effect in a short period of time, the pains having become gradually diminished, but not as yet wholly gone, and her health is better. Although pale, she has always menstruated with great regularity. In obstinate and suitable cases, this excellent preparation of iron should be borne in mind.—*Lancet, January* 11, 1862.

PREVALENT DISEASES IN PARIS AND LONDON.—In the *Gazette des Hôpitaux* of Jan. 26th, it is stated that a general epidemic of *la grippe* prevails at present in Paris, but which presents the same phenomena as other epidemics of the same malady.

In the *Med. Times and Gaz.* of Feb. 1, it is stated that the atmospheric conditions are very unfavorable for health. "Cold, damp, and fog, loaded with organic vapors, not only have produced a notable influenza here, but have raised the sum of mortality from all diseases whatever. Scarlatina and diphtheria are very prevalent; croup, whooping-cough, and continued fever have nearly doubled their ravages during the last week, and consumption and every other disease exhibits a high rate of mortality. We see scarcely any deaths ascribed to influenza simply, yet it is very prevalent, and in some cases associated with unusual symptoms of gastric complication. In one family which has come under our observation, out of sixteen inmates, ten have been ill; each seized in succession quite suddenly with vomiting, headache, shivering, great prostration, and pain in the limbs, and severe and catarrhal symptoms. Each case lasted in its severity about five days. In this house there was reason to suspect that sewer vapors had a share in the production of the mischief. From inquiries we have made, we have reason to believe that influenza is at present more prevalent among the classes in easy circumstances than among the poor."

INCREASE OF FREQUENCY OF CROUP IN PARIS.—M. Roger, after giving a statistical account of this affection as observed in the Hôpital des Enfants, Paris, since 1820, comes to the conclusion that it has prevailed, during the last six years, from 30 to 100 times more frequently than it did forty years ago. It is true that, in the meantime, the population of Paris has doubled, and that the success which has attended tracheotomy has caused many additional infants to be brought to the Hospital; but still these causes will not explain the great increase of diphtheritic affections during recent years. With respect to the results of tracheotomy, of 164 operations performed in 1859, 40 were successful; of 130 in 1860, there were 23 successful; and of 82 in 1861, there were 25—the mean success for the three years having been 24.68 per cent., a figure almost identical with that furnished by MM. Roger and See's statistics in 1858. At the Hôpital des Enfants, therefore, one-fourth of the patients attacked by croup are cured by operation; but if we take into account desperate cases which are not operated upon (about a ninth of the total of cases,) the total number of cures becomes reduced to 19 or 20 per cent.—*Med. Times and Gaz., Jan.* 4, 1862, *from Gaz. Hebdom, No.* 50.

TEMPERATURE AND VENTILATION.—"Generally speaking," says the *Siècle,* "during winter, apartments are too much heated. The temperature in them ought not to exceed 15° Centigrade (59° Fahrenheit;) and even in periods of great cold, scientific men declare that 12° or 14° had better not be exceeded. In the wards of hospitals, and in the chambers of the sick, care is taken not to have greater heat than 15°. Clerks in offices, and other persons of sedentary occupations, when the rooms in which they sit are too much heated, are liable to cerebral congestion and to pulmonary complaints. In bed-rooms, and particularly those of children, the temperature ought to be maintained rather low; it is even prudent only rarely to make fires in them, especially during the night. In addition to keeping up only a moderate temperature, the windows of all rooms, whatever the weather, ought to be opened for a time every day, so as to renew the air."—*Lancet, January* 11, 1862.

LIFE ASSURENCE IN FRANCE.—From the tenor of a paper inserted in a recent number of *L' Union Médicale* (1862, No. 2,) with the entire approbation of its editors, it would seem that some members of the profession in France regard the duty of the medical practitioner with respect to replying to the queries of assurance offices in a somewhat extreme light. With us, the question has only been as to the payment for the information afforded, such payment now being generally admitted as due from the offices. In France, however, they are questioning the right of the offices to ask the questions at all, and of the medical practitioner to reply to them; maintaining that, even with the candidate's own permission, such information should not be afforded, it being often requisite to keep secret, even from our patients themselves, our exact opinion as to their maladies and prospects of living. The objectors, too, seem to have little faith in the promises of secrecy on the part of the companies, believing that a man who has been refused will always find out the part his attendant has had in the result. This is perhaps more likely to happen in France, since it seems to be sometimes there the practice for the candidate himself to forward the queries to his attendant, and even to wait for the reply in some instances. It is argued that the entire *onus* of proving the assurability of the life proposed should be thrown upon the medical officers of the companies.—*Med. Times and Gaz., Jan.* 18, 1862.

ACNOMETER, OR MEASURER OF HEARING.—Accurately to determine the amount of difficulty of hearing, Dr. Doenhoff of Orsoy *(Prager Vierteljahrschr.)* uses a rod three feet high, attached to a circular piece of board one foot in diameter. The board is provided all around with a projecting edge, so that small bodies thrown on it can not roll off. The rod is graduated in inches, or still smaller divisions, from below upward. He also has three small balls, made respectively of wax, wood and lead, each measuring one line in diameter. To measure the difficulty of hearing, he commences with dropping the waxen ball on to the board from a height marked on the rod by the figure 5. If the patient does not hear the sound, he lets it fall from a higher mark, and he thus increases the hight until the patient distinctly hears the ball strike the board. If this be, for instance, from a hight of 28 inches or marks on the rod, he calls the patient's difficulty of hearing 28, waxen ball. But if the patient hears no sound, even if the ball falls from the highest mark on the rod, he tries the same experiment with the wooden ball, and if this also gives negative results, with the leaden one. If the patient hears the sound of the latter falling from the hight of 5 marks, that patient's hearing is 5, leaden ball. For the severest cases of hard hearing a tin-covered board is employed with leaden balls of increasing size, some as large as musket-balls. By this apparatus, the amount of improvement, during and after treatment, can also be admirably watched and determined.—*Amer. Med. Monthly,*

FOOD IN TYPHOID FEVER.—Dr. Hérard confirms the opinion expressed some time ago on this continent as well as in England, that in the management of typhoid fever the all-important, the capital question is that of food; prolonged abstinence leads to the most disastrous results. One lady patient was sinking steadily under a strictly enforced abstinence; when the pulse numbered 120, nocturnal agitation with wandering delirium, vomiting and diarrhœa had set in, the effects of nutriment were tried. At first, only a few drops of iced beef-tea could be swallowed with the utmost difficulty; by and by the food remained on the stomach, and in proportion to its increase, the pulse fell, the delirium yielded and the patient recovered. Mr. Marotte has established that vomiting, diarrhœa and delirium, more especially the latter, are characteristic of starvation. Trousseau also lately pointed out the striking analogy existing between the more serious symptoms of typhoid fever and those of autophagy consequent upon protracted abstinence.—*Berkshire Med. Journ., from Champonère's Journal..*

ONE of the lasting evils of war is the large number of maimed persons that are thrown upon the charities of the country. Government gives to such persons, it is true, a pension which, if properly husbanded, is capable of relieving the individual from pressing want. We would suggest the propriety of supplying such persons, as far as possible, with artificial limbs, under proper surveillance, and withholding a monied pension, at least of any considerable amount. Mechanical surgery would be capable of rendering many an idle pensioner capable of self-support. This would be economy in Government, and might give to society many an active and useful member who would be otherwise a burden upon the public.—*American Medical Times.*

ACONITE AND NUX VOMICA ANTIDOTAL TO EACH OTHER.—In the case of a negro boy who had swallowed a destructive dose of the tincture of aconite, and was rapidly sinking in spite of emetics and external irritants, Dr. D. D. Hanson administered three drops of the tincture of nux vomica. In a few minutes the heart's impulse returned with accelerated vigor, and the respirations were correspondingly improved in steadiness and depth. After a repeated dose, twenty minutes later, vigorous emesis followed the tickling of the fauces with a feather. The next morning the patient was fully recovered.—*Boston Med. and Surg. Journ.*

ARSENIC SMOKING IN ASTHMA.—Dr. F. G. Julius mentions the case of a French lady, who had been subject to spasmodic asthma for twenty-five years, and, after having tried every species and form of medicine, obtained finally a lasting relief from smoking arsenious acid. At first she took a quarter of a grain three or four times daily in a cigarette, subsequently increasing the dose. The smoke is always swallowed. Swelling of the eyelids and slight pricking pains in the stomach, when she first commenced, were the only outward symptoms. Any threatening attack is at once checked by renewed smoking.—*London Lancet.*

NEW TEST FOR DIABETES.—Upon a clean slip of tinned iron place one or two drops of the suspected material, and hold it over a spirit lamp; the fluid will speedily evaporate, leaving, if the process be arrested at that point, scarcely a trace upon the metallic surface. Continue the application of heat; in a few moments after the desiccation is complete, a spot of an inch or so in diameter, over which the drops spread with the first ebullition, will gradually assume a rich reddish-brown color, with a brilliant lustre, as if coated with a film of Japan lacquer, resulting from the conversion of the saccharine element into caramel.—*London Pharm. Journ.*

ALUM AND RHATANY IN SACCHARINE DIABETES.—M. Demeaux, in a communication to the Acedemy of Sciences, intended as preliminary to a more detailed statement, declares that he has treated diabetes very successfully by means of calcined alum and extract of rhatany given in equal parts.—*Gazette Méd. de Paris.*

PROF. DEVILLE, formerly of the Lind Medical College of Chicago, has been appointed Professor of Anatomy and Surgery in the Manchester Royal School of Medicine and Surgery.

DR. ELDER of Knightstown, Ind., has been employed by Assistant-Surgeon John Moore to open and take charge of a Hospital at Catlettsburg, Ky. This Hospital is intended for the sick of Col. Garfield's command.

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Original Communications.

Extracts from a Medical Thesis on Inoculation for Scarlatina.

By SALMON HUDSON, of Whittlesey, Medina county, O., and submitted to the Faculty of Starling Medical College of Ohio, A.D. 1862.

The subject I have chosen is certainly important, and I hope it may elicit future investigation by older and more competent heads than mine. I allude to the practicability and expediency of inoculation for scarlatina. I am not aware that it has ever been practised or recommended by any author upon this disease, either in this country or by any of our transatlantic brethren; and as every physician, who has practiced medicine to any extent, has witnessed to his sorrow the devastating effects of this terrible disease, any thing that might render it less formidable, and place it within the control of medical aid, would be hailed by the medical profession with the greatest pleasure. A disease that has, ever since its first invasion, at times baffled the best efforts and combined skill of medical talent in Europe as well as in our own country, and at times set at defiance all treatment, is one in which every medical man should take a deep interest. It not unfrequently has decimated the entire population of cities, towns and villages, making sad and desolate the once happy, social fireside. Truly may it be said to be the scourge of our land; as much to be feared as cholera or yellow fever, unless it, like small-pox, can be shorn of its terrors and its dangers. The question, as to the practicability of cutting short this formidable disease, rendering it more safe and manageable, by inoculation for the same, is the one about to be considered. I am well aware that any innovation, in regard to long established opinions and practices, is generally met by ridicule and burlesque; nor do I claim any notoriety or merit in presenting, in my humble manner, this subject for the consideration of the Medical Faculty.

That scarlatina is not only contagious, but actually infectious, capable of being transmitted by inoculation, we have the most positive and conclusive evidence, which will be shown by the narration of the following facts:

In the winter of 1854, small-pox made its appearance in Medina village, the county-seat of Medina county, Ohio. This, as usual in small places, created no little excitement; every body wished to be vaccinated. Vaccine matter was obtained, and the physicians kept busy, myself with the rest. Mr. G. S., a prominent man in our township, sent for me to come and see him; said he had been exposed to the small-pox, and thought he had got it. When I saw him, he had a high fever, quick pulse, headache; complained of pains all over his body; said he wished me to vaccinate all his family, which I accordingly did. Saw Mr. S. the next day; found his body well covered with a rash, throat sore, and every symptom characterizing a plain case of scarlatina; salivary glands were discharging freely, which he attributed to the administration of calomel, of which he had not received one grain. I attended Mr. S. four or five consecutive days, and then dismissed him; telling his wife to save me the scabs from the arms of her two little boys, which she promised to do. In about three weeks I received an envelope, containing two very nice scabs, of which I was very choice, and the next day vaccinated some thirty children from those scabs—twenty-three of which were taken down simultaneously with scarlatina during the fifth and sixth days after being vaccinated. I was called to see them, and, of course, had business a plenty; was called every thing but a gentlemen, censured without mercy, threatened with a prosecution, and escaped the expense of a defense in court by the intervention of my friends.

The history of those scabs, with which I vaccinated my patients, is this: those little boys of Mr. S., after I vaccinated them, came down with scarlatina, though light, after which their vaccination operated effectually; vaccina being for a time suspended during the invasion and termination of scarlatina, and then developing itself in the system, corroborating an old established principle that, as a general thing, the human system does not tolerate the invasion and development of two specific diseases at the same time.

The little boys contracted scarlatina from their father after being vaccinated, and not being much sick I was not called; and was not even aware that they had had scarlatina at all, or I never should have used the matter from their arms. But this did not exonerate me from censure. "I did it on purpose to make business," "deserved to be put through," as they termed it. Madam Rumor, as she always is, was busy; epithets without number were heaped upon my head; which, of course, had a tendency to injure me in my business.

And next as to the history of those cases which contracted scarlatina by inoculation from those scabs, which will be interesting as well as instructive. During the fifth and sixth days after I vaccinated them, twenty-three out of the thirty were taken down simultaneously with scarlatina, all of which did well; no unpleasant symptoms, such as retrocession of the rash, metastasis, or abscesses about the neck, but all terminated pleasantly within ten or twelve days from the time I vaccinated them. But no sooner had scarlatina subsided, than vaccina began to assert its prerogative; a nice little pustule began to form on the arm, and all the symptoms attending this disease became manifest, and occurred in every case that had scarlatina.

Another important feature in those cases was, that in several of the families whose children were vaccinated, some were absent. One, in particular, two little boys and a little girl; the former two not being at home, the matter was only put in the arm of the girl, who came down with scarlatina as the rest; had it very mild; from which her two little brothers contracted the disease in the most malignant form, of which both finally died. In several other families the results were very similar; those who were vaccinated had it very mild and light, while those who took it in the natural way had it in the most malignant form, several of whom died.

Now, from the above, it strikes me that scarlatina, like small-pox, may be modified and cut short—made less formidable—and, in those fearful epidemics which so frequently destroy so many of our children, its progress may be arrested, its symptoms mitigated, and the disease shorn of its terrors.

Now, as to the practicability, I would suggest that in one of those fearful epidemics I would immediately procure some vaccine matter, put it in the arm of some person just exposed, or coming down with scarlatina. As soon as the patient has had scarlatina, vaccina will come on; provided the patient has never been vaccinated before. In this manner I have no doubt but the disease may be essentially modified—rendered comparatively safe and harmless.

With these suggestions, I submit the entire matter to the medical profession, hoping that it may receive the attention of those more competent and better qualified to investigate it than myself.

American and Foreign Intelligence.

New York Academy of Medicine.—Case of Supposed Murder.

Professor A. Clark presented the medico-legal points in a case of suspected murder, as found four months after death.

Mr. President: I fear, sir, that you have flattered me too far in inducing me to believe that the subject that I am able to present will interest the members of this body. Still, there are certain points in the case that I intend to recite that were of interest to myself; and as I have devoted a considerable time to the investigation of some of them, it may not be wholly unprofitable to present the conclusions to which I have arrived.

The case to which I refer is substantially this:—

A woman is found in her bed of a morning with her throat cut, lying upon her back a little inclined to the right; the head turned a little more in the same direction than the body. A considerable quantity of blood had flowed from the wound upon each side of the neck; most upon the right. She was lying on the left hand pillow near its right extremity. There was sprinkling of blood to a limited extent; some upon her face, in the curls of her hair, on the right hand pillow at a distance of about two feet from the wound, and on the left hand pillow at a distance of nine inches to a foot. The knot of the hair at the back of the head was saturated with blood, clots of considerable size were found along the right shoulder, and blood had flowed down to the hips and had entered the feather-bed, so as to saturate a considerable spot at this place, i. e. in the position of the hips, causing a sensation of weight to the hand placed under the bed, and moistening the hand with blood.

The quantity of blood lost could not be accurately estimated, but the bed, after it had been exposed to the rain and weather for several weeks, still contained a coagulum with feathers which was compared in size to a duck; another coagulum was found in the feathers of the left hand pillow about the size of the fist. One or two clots, compared to the size of the two hands, were found upon the surface of the bed. A spot of blood about nine inches in length, and of less width, was observed upon the sheet turned down over the body near to the hips: and some spots of blood were noticed in the blankets under the sheet.

The right hand was lying by the side, the arm somewhat bent at the elbow, and the hand at a distance of about six inches from the hips. Under the wrist and hand was found a razor, partly open and partly covered with blood. This hand was bloody, but not covered with blood, more in the inside than on the backs of the fingers.

On the left hand a few spots of blood are described at the ends of the fingers. The curls, which had been put up for the night, were not ruffled or in any way disturbed. There was no scratch, or abrasion, ecchymosis, or other mark of violence upon the face, hands, or any part of the body, except the cut already referred to.

There were marks of bloody fingers on the face, described as if beginning on the left side, and drawn across the nose, but so vaguely described, that it could not be determined whether they were made by the right hand or by the left. Marks of bloody fingers were described on the inferior and left corner of the right hand pillow, and also on or about the middle or center of the same pillow. When, however, the pillow tick, produced in court, was seen to be sprinkled with blood at about the same spot, a question was raised whether these latter marks were produced by sprinkling or by the hand.

The woman had not removed her drawers or flannel petticoat, and the night dress was turned down from the neck. Little or no blood is described as seen on the chest below the upper edge of the flannel dress, which was under the night gown.

The cut in the neck was five inches and a half in its curved measure and three inches in its direct length. It began on the left side at a point nearly opposite the cricoid cartilage upon the sterno-cleido-mastoid muscle near its posterior border, passed directly inwards towards the centre of the neck and in the line of a radius from that centre to the depth of about three quarters of an inch; it then swept over the fifth cervical vertebra, shaving off a small portion of the transverse process, passing over the body of the vertebra, penetrating its covering and making a slight impression upon the bone itself, and from that passing out in a direct line on the right sterno-cleido-mastoid muscle, cutting the inner portion of the muscle, and extending half an inch in the skin beyond the parts of the muscle cut—in other words passing outwards nearly in a direct lateral line. The left extremity of the incision was three and one quarter inches below the lobe of the ear, and the right extremity three and one half inches below the corresponding point on that side. The cut had severed the cricoid cartilage and all the muscles in its track, together with the deep jugular vein, the pneumo-gastric nerve, and the carotid artery on each side.

The bed was four feet and four inches in width, and stood in the corner of the room, so that the head of the bed was against the wall and the right side of the bed also against another wall. The room was about seven feet wide and nine feet long. In the space between the bed and the wall on the left side, at the head of the bed, was a stand about two feet and one half in length and eighteen to twenty-four inches wide, on which were found a tumbler, vials, and other furniture in order and undisturbed. The cut appeared to have been one incision.

Two important facts are yet to be stated. The right sleeve of the night gown, buttoned at the wrist, was bloody on the part looking toward the body. Between the wrist and elbow a part of the sleeve was "soaked" with blood, and near the elbow was a sprinkling by drops, which were elongated towards this joint.

The other fact is this, while women were "laying out the body," one of them lifting the arm of the dead person, saw bloody froth or rather large blood bubbles rise from the trachea into the wound. Interested in this occurrence, she again lifted the arm with the same result.

A coroner's inquest was held, and the woman was buried under the verdict of suicide. Four months after this, on the 10th of April, 1860, under the suspicion of murder, her body was exhumed and a post-mortem examination made. The body was found in a good state of preservation. The lungs were reported as congested and engorged with blood. Bloody fluid was found in each pleuritic cavity, estimated at five ounces on the left side and eight on the right. The lungs were slightly adherent, otherwise they were healthy. The heart was empty and sound in every particular. The brain exhibited no appearance of any disease, but had undergone considerable change from decomposition. All the other organs examined were found healthy and free from blood. The stomach and intestines were reserved for chemical examination. The tongue opposite the molar teeth was found to be ecchymosed in a space on the left side about one inch in length and somewhat more than half an inch in width. On the right side was a similar spot of about one half that extent. In the right lung were several spots of pulmonary apoplexy.

A second post-mortem examination was made ten days after, or four months and ten days after death. The face, upper part of the chest, inferior portion of the inside of the thighs, upper portion of the legs, and back of hands, were covered with white or bluish green mould spots; the skin underneath had become of parchment appearance, semi-transparent and reddish brown. The eyes were entirely shrunk and sunken, leaving deep cavities completely lined by the eyelids. There was slight cadaveric rigidity. The inferior half of the trunk, the lower portion of the legs, outside the thighs, the whole lumbar region, and upper portion of the pelvic region posteriorly, were free from any marks of decomposition, and entirely of natural appearance, except a slight uniform greenish stain; and all parts were free from static or post-mortem congestions, or blood stains. The cut in the neck was found as before described, passing nearly transversely from left to right, across the neck, inclined from above a little downwards. The muscles and tissues were so far changed by the previous examination and some drying as to render it impossible to distinguish precisely the vessels and nerves that had been divided. Opening the sutures of the cut previously made, the viscera of the abdomen, it was found, had been almost wholly removed; there remained, however, the uterus, bladder, and rectum in the pelvic cavity, and these it was noticed were unusually bloodless. In the thoracic cavity one lung remained, and this was lying in the right chest; it was the left lung, which had been turned over upon the heart. In the left pleuritic cavity, which was otherwise empty, was found a drachm and a half of bloody-looking fluid. In the right there was twice this quantity of a similar fluid, but thicker and of darker color. The left lung was entirely uninjured, its bronchus and its vessels being still uncut. It was greatly contracted, but presented no evidence of congestion, except in the inferior and posterior portion, where the blood usually accumulates after death; and this accumulation occupied a smaller space than is usual in the majority of persons who have died of diseases not affecting the lungs.

The organ was of a dark greenish color in its posterior portion, in other parts approaching a slate color; it was perfectly soft and natural in feel; it occupied one-fifth of the thoracic cavity. Removed, it floated in water, weighed seven ounces, four drachms, and fifty-five grains (Avoir.). Immersed in water, it displaced eleven fluid ounces and no more; there were a few vesicles of emphysema in the inferior and anterior edges, resulting from commencing decomposition. The heart, still attached to the aorta, had been opened;

it was stained with fresh looking blood in the upper part of the left ventricle, and had a spot of commencing decomposition on the inner surface at the apex. The veins of the heart were not distended, and contained very little blood and some air. The aorta, which had not been examined previously, was opened from the heart through its whole length, together with the continuous arteries down into the pelvic. In the upper part of the aorta there was just blood enough to cover the inner surface slightly, but not enough to flow, or show much coagulation. The lower half was entirely empty, and not blood-stained. No blood was found in the arteries or veins of the pelvis or of the abdomen, and no blood stains. The lung was easily and completely inflated, except a small portion of the inferior and posterior portion which had been the seat of post-mortem congestion; with the exceptions above stated, it appeared remarkably healthy. The bronchial tubes were opened as far as the scissors could penetrate; they were found of a reddish hue, the inferior branches of a deeper color than the superior, but containing no blood, or only a trace of blood. The specific gravity of this lung was found to be .665.

Admitting that the quantity of bloody fluid found in the chest had drained from the lungs, it being upon this side by estimate five ounces, let this be added to the weight of the lungs as before stated (i. e. seven ounces, four drachms, and fifty-five grains), and also the three drachms found at the last examination in the right cavity, its total weight must have fallen a little short of thirteen ounces. Hutchinson estimates the weight of the healthy female lungs, based upon six examinations of women, weighing on an average ninety-four pounds, as seventeen ounces for the left lung and nineteen for the right. This woman weighed ninety-six pounds, and it may be fair to infer that her lung might have weighed seventeen ounces, and yet not have been materially congested. As to the weight of the right lung, it is reported to have been nine ounces. If the quantity of fluid found in the right cavity on the first post-mortem examination was eight ounces, this added to the weight of the lung would give us seventeen ounces as the weight of the right lung, which will be two ounces less than Hutchinson's average for a woman of her size and age. There was no dispute in regard to the bloodless character of the organs that were removed from the body, with the exception of the lungs.

The husband of this woman was charged with having murdered her. The theory of the prosecution was that she was first suffocated, and that her throat was cut afterwards.

EXTENT OF CUT.

It was urged that a cut of the extent here described could not be made by the woman herself upon her own throat, and it appears to be a general belief that such cuts are to be ascribed to homicide rather than suicide; still there are many facts on record that will authorize the belief that cuts of great extent can be made by persons attempting their own lives.

Among the cases illustrating this point stands prominently that recorded by Marc (*Annales d'Hygiène*, vol. iv. p. 407; *Taylor*, p. 265; *Beck*, vol. ii. p. 133), in which a young man standing before a window, with a razor, inflicted a wound two inches above the sternum, extending from the outside of one sterno-cleido-mastoid muscle to the outer border of the other, dividing every thing, and slightly wounding the anterior ligaments of the vertebra. On this case the reporter remarks: "It is one of the remarkable instances, though occasionally observed heretofore, of the degree of energy to which the intention of suicide can be carried, with persons especially who terminate their own lives by cutting their throats. It proves, in truth, that it is wrong to deny the possibility of suicide in this manner for the reason that the incision has divided part after part, the larynx, the œsophagus, and has struck upon the cervical vertebræ."

Devergie reports in the same vol., page 414 (*Taylor*, 265), an enormous wound in the neck, two inches deep, going to the posterior layer of the pharynx next to the spinal column, three inches and three lines open and just one foot in circumference, cutting the bone of the jaw, submaxillary glands, all the muscles of the hyoid bone from the jaw and tongue; the tongue itself and the jugular veins. This great wound was made in three cuts. The man was seen to do this or "otherwise," says Devergie, "would not the suspicion of murder have been raised immediately, and would not the physician consulted have found in the wound circumstances which would militate much more in favor of homicide than suicide?"

Taylor (p. 264) quotes Dr. W. Burke Ryan's report of an extensive suicidal wound reaching to the cervical vertebræ, one of which had been cut by the razor.

Professor Dieffenbach (*Archives Générales de Médicine*, Oct., 3, p. 256) gives an account of thirty-one cases of cut-throat, the subjects of surgical treatment. Of these the wound in one was "several inches long;" in another reported "very extensive, to the posterior wall of the œsophagus;" in a third, six inches in length; in a fourth to the cervical column. This latter was in a woman of sixty, and extended from one sterno-cleido-mastoid muscle to another, at a point just below the larynx.

Brièrre de Boismont, in examining the different kinds of suicide (*Annales d'Hygiène*, vol. xli. p. 143), searched the Procès Verbaux relating to 4595 suicides. Of these, simple section of the neck numbered fifty-seven, section of the neck and other wounds, fourteen more, making seventy-one. Of this number, in twenty-eight cases, the details of which are sufficiently precise, the instrument had divided more or less completely the muscles, the vessels, arterial and venous, the pharynx and trachea, and was only arrested by the vertebral column. In several cases the wound, frightfully gaping, exposed to view all the wounded parts. Many of these large wounds had been made by a single cut.

On this point, we may cite Taylor (p. 265), in the following words: "As to the extent of the cut, i. e. the number and importance of parts injured, it has been hastily laid down that an extensive wound of the throat involving all the soft parts to the vertebral column could not be inflicted by a suicide; * * * * but occasionally all are divided to the vertebra. There are cases perhaps in which with a firm hand there is a determined purpose of self-destruction."

Briand and Claudé (p. 262), quoting these and similar cases, state that wounds, the most extensive and the most multiplied, may be suicidal. Similar citations might be multiplied, but these must be sufficient. It may be worth while to refer to a few other cases which, though not parallel to the one which we are considering, still show great energy in the attempt at self-destruction. Such is the case reported by Degranges (*Annales de Hygiène*, vol. xiv. p. 410; *Taylor*, p. 787), in which a young man inflicted a wound to the vertebral column about six inches long, not cutting the deep jugulars or the carotids, but severing the thyroid arteries, bled as was believed to fainting, staunched the blood with his handkerchief, went up stairs, found a cord, descended, placed a ladder against the wall, adjusted the cord to a nail, and afterwards hanged himself.

Dr. T. C. Finnell (*Trans. State Med. Soc., N. Y.*, 1861, p. 61), one of our own fellows, reports the case of a shoemaker, who stabbed himself in the neck with his knife with such energy as to pierce the fifth cervical vertebra to the depth of one inch, breaking the knife outside the bone.

Mr. Jameson's case (*Beck*, vol. ii. p. 130) is extraordinary. A woman cut out part of her larynx, i. e. the cricoid cartilage entire, the left wing of the thyroid, the right arytenoid, and part of the upper rings of the trachea, and a portion of the muscles attached, and while the surgeon was dressing her wounds, took these parts from her pocket and exhibited them to him.

Taylor (p. 269) notices the case of a lady who made two very deep extensive cuts in the neck, dividing the principal blood-vessels on the right side, using as her weapons two pen-knives. The wounds were fatal.

Leuret (*Annales de Hygiène*, v. 236) reports that an officer cut his throat with a small scissors used for embroidery, dividing the trachea and right carotid completely, the œsophagus and left jugular vein partly, the wound being about two and a half inches in length.

Dr. Spittal (*Edin. & London Monthly Jour. of Science*, July, '41) gives the case of a woman confined for theft, who during the night had symptoms of delirium tremens, but was rational in the morning, so that the matron going to church, gave her the Bible, desiring her to read the first Psalm. She was also furnished with milk in an earthen jug and a spoon. The matron on returning from church found her dead, the floor covered with blood, and her neck horribly cut. The wounds had been inflicted by the fragments of the earthen jug which she had broken, and had been bored and deepened by the handle of the spoon.

BLOODY FLUID IN THE PLEURITIC CAVITIES.

An important point in this case seems to have been, that the effusion in the pleuritic cavities must have taken place prior to the cut in the neck. Here, so far as I can ascertain, is raised for the first time the question, whether suffocation can produce bloody effusion into these cavities. It becomes interesting to inquire whether there is any precedent for such an opinion. I have searched through the ample records of suffocation, hanging, drowning, and strangulation, and through essays devoted to these subjects, and have failed to find a single instance. Cazauvieilh "On Suicide," reporting in detail fourteen cases of strangulation and submersion, noticing the thoracic organs in every instance, makes no mention of such an effusion. Brièrre de Boismont (*Annales d'Hygiène,* xl. 425), in a summary of remarkable things noted in 797 Procès Verbaux of cases of strangulation and suspension, makes no allusion to any such occurrence; the examination in all these cases being soon after death. Olivier de Angers (*Annales d'Hygiène,* xviii. 845) examined sixteen of the twenty-three persons suffocated by pressure in the Champs de Mars on the 14th of June, 1837, and found effusion of blood in the pleura in none, though ribs were broken in seven from two to thirteen in each.

It seems, then, to be safe to infer that neither blood nor bloody effusion in the pleuritic cavities is ever the direct result of suspended respiration, no matter how produced; that when such effusion is found, excepting when attended by laceration of the lung through violence, it is always either a pathological condition and attended by particular symptoms during life, or a post-mortem result, that may be considered in the light of a drainage. Even in drowned persons, in whom it is most frequently met with, there is no evidence that it is ever observed till after days, and many times weeks, have elapsed.

Devergie remarks (*Annales d'Hygiène,* xvi. 444) that bloody effusions, the result of decomposition, are very common, always in serous cavities, the pleura, pericardium, and sometimes in the peritoneum. They are the result of decomposed blood, which is very fluid, and transudes the tissues, staining them, and occurs only after the generation of gas.

Devergie and Orfila are the authors to whom we are chiefly indebted for a knowledge of the fact here referred to. Devergie (*Annales d'Hygiène,* ii. 164) made examinations of sixty-two bodies of persons found drowned, and took note of the condition of the thoracic cavities in each. Of these forty-five were recognized, and their histories consequently known. The examinations were made in the months of January, February, March, and April, that is, in the cold season of the year. He found at the end of a month of submersion, that the lungs were very emphysematous, filling the cavity of the chest, and extending more or less in advance of the pericardium. At the end of *two months* the cellular tissue in many parts had imbibed the blood of the adjoining vessels, and had become of a uniform red color. Veins had become emptied of blood, and ordinarily were distended with gas. The arteries were red by imbibition through their walls; the pericardium partaking of the color of the arteries, contained bloody serum. In *three months and a half* the lungs no longer filled the cavity of the chest; the space between them and the pleura costalis was filled with reddish serosity, and the serum in the pericardium was less than at earlier periods, was also less liquid, and of a deeper color. At *four months and a half* the pleuræ contained a large quantity of brownish serosity, at least a pound in each.

He remarks that these effusions are almost constant in the drowned, when the bodies have remained more than six weeks in the water, and expresses his belief that they are the results of transudation of the blood and liquids of the vessels in consequence of the development of gas in these tubes. Yet he remarks, these gases did not remain there always, for after four months and a half the walls of the vessels were effaced and collapsed on each other. That these effusions, however, are not in the drowned purely the result of drainage, is rendered probable by a case recorded by Alexander Watson, in which it is stated that a man thirty-five years of age was drunk, and fought with several persons, and disappeared March 12, 1833, and eight days after was found in a pool of water, at the depth of twenty-eight or thirty feet, with marks of violence upon his head, and other signs which gave rise to the suspicion that he had been murdered, and afterwards thrown into the water. "Eight pounds of fluid blood were taken out from the cavities of the pleura, and several ounces of the same fluid were found in the pericardium." The specific gravity of this fluid is reported to have been 1011. This statement proves conclusively that the fluid was not blood; even that it was not undiluted serum retaining the color of blood. The specific gravity of blood is 1050 to 1057 in health, and in disease it does not fall below 1031: that of serum varies from 1021 to 1030, the healthy standard being 1027. In dropsies, in diseases of the kidney, and after profuse hemorrhage, it has not been found below 1013. There is no reason to infer that the serum in this man would fall below the healthy standard: blood must have been diluted by four times its bulk of water to have reached the specific gravity here mentioned, and the bulk of serum must have been doubled to have reached the same standard.

But these effusions are not confined to the drowned. Orfila (*Annales d'Hygiène*, iv., 114), in judicial examinations has often seen this fluid in the pericardium, and has found the blood black and fluid in the vessels for one to eight months after death. He appears to have met with effusion in the pericardium more frequently than in the pleura. In his *Exhumations Juridiques,* (*Médicine Légale,* vol. i, pp. 405, fourth edition) however, he reports several instances in which this fluid was found in the latter cavities. *Necroscopy* 1.—Eighteen days after death a considerable quantity of bloody serum was found in both pleuritic cavities; the person had died of double pneumonia. *Necroscopy* 2.—Thirty-seven days after death there was also double effusion of a similar character. The person was supposed to have died of pneumonia, which, however, was single. It was also found in the pericardium. *Necroscopy* 5.—One hundred and twenty-four days after death a similar effusion was found in the pericardium, and not in the pleura, the person having died of pneumonia. *Necroscopy* 27.—Thirty-two days after death, eight ounces of bloody serum were found in each pleural cavity. The person had died of apoplexy. He also reports the case of a drowned person, who nineteen days after death had eight ounces of bloody fluid in the right pleura, and none in the left.

Prof. Toulmouche (*Annales d'Hygiène,* July, 1860, p. 210), in his report of judicial autopsies made in cases of natural death, found bloody fluid in the thoracic cavity in three out of ten cases recorded. Thus in *Case* 4, in the right of pleuritic cavity there was a moderate effusion of bloody serum. The lung of this side was in a condition which led the reporter to believe that the patient had died of pneumonia. He does not state how long the body had been buried. *Case* 5, which has its duplicate, was in an advanced state of decomposition; there was emphysema under the surface tissues, blisters in all parts filled with bloody serum, adhesions on the entire face of the left lung, and a small quantity of reddish fluid in the pleuritic cavity of that side. There was pneumonia of both lungs, but no bloody effusion is reported on the right side.

It will be noticed that in many of these cases the lungs may be supposed to have been more than usually charged with blood at the time of death. And it cannot be denied that both reason and observation would lead us to expect such effusions most frequently in such cases; still it is to be noticed that even in the cases here referred to, drainage is recorded from lungs that were not diseased, and not supposed to have been engorged in any unusual degree.

That drainage may occur from such lungs appears still further evident from a case reported by Champouillon (*Annales d'Hygiène,* xxxiv. 377.) It was that of a soldier in Algeria, who lacking courage to accompany his comrades in a charge, allowed himself to fall from his horse in a marsh. He remained there for several hours, and a few days after died of malignant miasmatic fever. At post-mortem examination, fourteen hours after death, the weather being warm (June 10), the body was much discolored by decomposition; many parts were swollen by gaseous evolutions, and were crepitant on pressure of the fingers. His lungs were highly emphysematous, and pushed out of the open thorax. The pleuræ pulmonales were lifted here and there by the evolution of gas. In each of the pleural cavities there was a sero-sanguinolent fluid, the quantity of which was estimated at two litres, or about four pints, and this fluid was covered by an oleaginous layer of considerable thickness. The peritoneal cavity contained about half a litre (one pint) of the same kind of fluid, without the oily matter.

Gendrin injected into the groin of a cat, blood taken from a butcher who had been attacked with gangrenous pustule and putrid fever. The animal died in a short time: a few hours after the body was sensibly fœtid. At the autopsy there was found in the left pleura "black blood very serous."

Devergie (*Annales d'Hygiène*, iv. 203) discovered bloody fluid in the thoracic cavity of a fœtus at term, that had not breathed, but had lain in the water six or eight days.

These cases and statements embrace nearly all that I have been able to find bearing upon the post-mortem drainage of the lungs while yet in the natural cavities, but it has appeared to me important to ascertain what quantity of fluids may percolate the tissues of the lungs and pleura after death, from lungs regarded in all respects as healthy when removed from the body. To this end I have instituted a few experiments.

The following will be sufficient to illustrate the points these experiments may settle.

I. A woman, sixty years of age, weighing ninety pounds, died on the 17th of May, 1860. The right lung appeared perfectly healthy; weighed seventeen ounces, displaced f. ℥ xxxvii. of water, giving a specific gravity of .442. The root of the lung was firmly tied, and the organ was placed, the root uppermost, in a glass jar, and carefully covered. The drainage in ten days was four ounces of a dark, bloody serum. The left lung, weighing twenty ounces, was thought to be slightly congested, and was not used for the experiment.

II. A woman, æt. 25, died April 6, 1860, of mania, each lung weighing fourteen and a half ounces. The left lung displaced f. ℥ xviiss of water, giving a specific gravity of .797; the right displaced f. ℥ xxi. having a specific gravity of .663. The root of this lung was tied, and the organ suspended by the ligature in a glass-stoppered jar, and the drainage in seventeen days was f. ℥ iij. and f. ʒ i. The weather being a part of the time hot, decomposition was now advancing, and the experiment was suspended.

III. A woman, æt. 50, weighing one hundred and twenty-one pounds, died, having pneumonia of the right lung. The left lung appearing perfectly healthy, weighed seventeen and a half ounces, and displaced ℥ f. xxvi. of water, giving a specific gravity of .644. It was tied and suspened as in the last experiment in a stoppered jar. In fourteen days the drainage was f. ℥ viiss. The lung then weighed nine and three quarter ounces, and displaced f. ℥ xivss., the specific gravity being then .653.

IV. The fourth experiment was conducted for me by Dr. Segur. A woman, æt. 21, weight estimated at one hundred and ten pounds, died of meningitis. The right lung weighed thirteen and a half ounces, and displaced f. ℥ xviiss. ounces, giving a specific gravity of .729. Suspended in a stoppered jar for fifty-five days the drainage was f. ℥ ixss.; the lung then weighed four and a quarter ounces, and displaced f. ℥ vj. of water; the specific gravity being then .680. Here it will be seen that in fifty-five days more than two-thirds of the ordinary weight of the lung has drained from it in fluid matter, leaving the lung tissue not yet dried weighing no more than four and a quarter ounces.

These experiments illustrate what may take place within the body after gaseous matter has been developed to some extent in the pleuritic cavities and in the vessels of the lungs to facilitate the transudation of the fluids. It will be borne in mind that while it is denied that the lungs in the case which is the occasion of these remarks, were congested in the sense in which that term is usually used, that is, that the vessels at the time of death contained more than their usual quantity of blood, yet it is not denied that they contained more of this fluid than would have been looked for had the woman died of hæmorrhage from the femoral artery or other vessels, the severing of which did not imply the severing of the trachea.

PULMONARY APOPLEXY.

It was claimed by the prosecution that in the right lung there were several points of pulmonary apoplexy, and that statement was admitted as true on inspection of the part of the lung. The explanation given by the prosecution and defense was very different; the former claiming that these effusions were the result of suffocation; the latter, that so far from having been produced by this cause, their very existence proved that no suffocation had been attempted. No cases were cited, and it is believed that no instance can be found in which suffocation has produced circumscribed pulmonary apoplexy. If the explanation which Watson (*Pract. Phys.*, 3*d Amer. Ed.*, p. 613) and Carswell (*Path. Anat.*, part Hæmorrhage) have given of this occurrence is admitted, it will appear obvious that the fact is inconsistent with asphyxia in any form. Watson, speaking of the ordinary occurrence of pulmonary apoplexy, says: "The seat of the effusion is in one or more of the larger branches of the air tubes and the blood, or a part of it is driven backwards into certain of the pulmonary lobules by convulsive efforts to respire. * * * It is easy to understand how certain portions of the lung, without undergoing any actual change of condition, may be so choked up and crammed with blood as to preclude any subsequent admission of air." He here speaks of the variety called circumscribed apoplexy of the lung, which was the variety observed in the lung in question. This choking up and cramming with blood is a filling of the air cells of the lungs. This can be made evident by the same procedure by which we determine the seat of the effusion in pneumonia: by the aid of a lens the little coagulum formed in a single air cell can be turned out with the point of a needle and its character ascertained under a microscope, and thin sections of pulmonary apoplexy under the microscope can be easily made to show that it is the air cells that contain the blood and not the general tissue of the lung. Now it is claimed that pulmonary apoplexy of this variety can be produced in cut-throats merely by a forcible inspiration taking place while the trachea is more or less filled with blood from the cut, and inasmuch as " convulsive efforts to respire " are necessary so to fill the air cells, it is plain that such efforts are not likely to take place during an attempt at homicidal suffocation; and further, on this supposition there is no source from which the blood can flow to be drawn into the lungs. Those who have noticed the effect of cutting the trachea and large vessels of the neck in the inferior animals will easily understand this. After the wound is made, for some seconds there is no effort at inspiration, but before death takes place there are usually three or more, and one or more of these will be observed to be convulsive and noisy from the blood that has already entered the severed windpipe; and as an observed fact circumscribed apoplexy of the lung does take place in these animals under these circumstances, and will occur in the right lung when the body of the animal is inclined to the right, or in the left lung when inclined to the left.

In confirmation of this view of pulmonary apoplexy, I may be permitted to cite a case that occurred under my own observation. At Bellevue Hospital, some years ago, we had a patient who had occasional vomitings of blood, from ulcer of the stomach. One day, while enjoying the sun and air on the south side of the building, sitting with other patients on a bench, he suddenly discharged from his stomach a large quantity of blood. A loud gurgling noise was heard in his breathing, and he fell dead. At post-mortem examination, coagulated blood was found in the stomach. The trachea and bronchial tubes contained frothy blood, and both lungs were studded with numerous masses, large and small, of circumscribed apoplexy. There was no other lesion of the lung. It seems to me clear, that this man, feeling the urgent want of breath while the throat and mouth were full of blood, had drawn this fluid into the lungs by one or more violent inspirations.

MOVEMENTS, VOLUNTARY OR INVOLUNTARY.

Regarding the power which this woman might possess after inflicting this wound upon the throat, of passing the hand over the face, placing it in one or two spots on the pillow, and of letting it fall again in the position in which it was found, it is not inappropriate to consider two classes of facts: 1. Those which relate to voluntary motion after fatal wounds have been inflicted, and 2.

Those that refer to convulsive and involuntary movements resulting from hæmorrhage.

On the first of these points Taylor (page 347) remarks : "There are several cases on record which show that wounds involving the common carotid and its branches as well as the internal jugular vein do not prevent the exercise of voluntary power and running a certain distance," and page 270, "Suicides do not immediately perish from wounds that are commonly termed mortal, on the contrary they have power to perform acts of volition and locomotion which might seem incompatible with their condition." Among a considerable number of instances recorded in which persons with wounds in the neck, that were almost immediately fatal, have performed such acts of volition and locomotion, two are referred to by Brierre de Boismont (*Annales d' Hygiène,* xli., page 143) who cut their throats before a mirror, walked across the room by the aid of the furniture, covering the floor with blood, and, reaching their beds, lay down and died.

In a case referred to in Beck, (vol. ii., page 350,) a woman in whom the left carotid artery was cut, and many branches of the carotids and jugulars, walked twenty-three yards, crossed a stile three feet ten inches high, and then died. A man afterwards found that the time required for him to do this was thirty seconds.

The case already quoted from Degranges, in which a man after cutting his own throat went to and returned from another story of the house, and with apparent great deliberation hanged himself, illustrates the same point. It is not evident in any of these cases that both carotids were cut, still they leave us to the inference even when both were cut that certain voluntary motions can be performed, and probably all that were supposed to have been performed in this case. But with reference to convulsive movements there can be no doubt that they are common in death from hæmorrhage, and more common the more rapidly fatal the bleeding. These convulsive movements are known to last as long as the bleeding continues, and analogy permits us to infer that in these cases they may have continued at least thirty seconds after the wound was inflicted.*

SPRINKLING OR SPIRTING OF BLOOD.

The sprinkling or spirting of blood from wounds in the neck appears to have attracted but little the attention of medical jurists. In by far the largest proportion of cases it is not mentioned, even when the description is in great detail. In this case, however, it became a question of importance, on the theory that the woman was suffocated and that her throat was cut afterwards. It was urged that in such a case the spirting of blood would be little or none at all, while on the other hand it was claimed that if the throat was cut in full life the blood should have been thrown to a considerable distance upon the bed, and even upon the walls of the room. It was even claimed by one of the medical witnesses that a cut made in this situation, the heart being vigorous, the head in the line of the body, the body lying upon the back, that the blood would have been thrown from each carotid past the lips of the wound, past the jaws and head, and would have struck in full force against the head board. My researches have led me to the inference that when the carotids are entirely divided the spirting or sprinkling of blood from them is almost nothing; but that when either of them has been partially divided so as to give such direction to the current of blood as that it will flow forward, unobstructed by the lips of the wound, then the jetting or sprinkling of blood may be considerable. Thus in the case already quoted from Marc, of the young man who cut his throat standing before a window, the furniture and window were spotted with blood to the height of about three feet, an overturned chair was sprinkled with blood, a night-cap on a step before the window, raised about one foot, was spotted on its upper side. In this instance neither carotid was entirely severed, both were cut into "and the right half cut, the left more than half cut."

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* For a treatise on the subject of convulsions from hæmorrhage, vide *Kussmaul* and *Tenner* (*New Sydenham Society Pub.*) See also, *Hippocrates. Marshall Hall, Medico-Chirurg. Trans.*, vol. xiii., page 126. *Travers' Constitutional Irritation,* page 339. *Beck*, vol. ii., page 322.

In a case reported by Rami, Adelon, Dubois, and Boyer (*Annales d' Hygiène,* xv., 394; *Beck,* ii., 134), in which only about one pound of blood was lost, the throat was supposed to be cut while the woman was standing a short distance from a wall; the wall was sprinkled to the height of three feet four inches at one spot, and at another spot to the height of two feet six inches. In this case the right carotid was cut in two-thirds of its circumference, on its inner side.

In the case of Mrs. Duval, referred to by Beck (ii. 214), reported by Devergie (*Legal Medicine,* ii. p. 168), the larynx and hyoid bone were broken, the superior thyroid artery was cut, but the carotids were not. The blood had been thrown in jets over the features, but it is not remarked that it was thrown upon the furniture. This was a case of homicidal cut-throat; the thyroid artery was enlarged to supply an enlarged thyroid gland.

In the case of Sellis, the valet of the Duke of Cumberland (*Beck,* ii.) there was a wound in the throat six inches long, dividing the arteries on both sides, whether wholly or not, is not stated. There was blood on the walls of the room, on the curtains, washstand, basin, and drawers. The body was extended in bed, but Sellis's cravat was cut in several places. On the duke were two scalp wounds, his arm was wounded, his little finger nearly cut off, and there was bloody water in the basin in Sellis's room. Under these circumstances it would seem at least questionable whether the blood upon the walls, bed, and furniture was from the arteries of the servant or the master. These are all the cases of cut-throat that I have met with in which the subject of sprinkling has been considered of sufficient importance to have been described in detail.

Taylor (p. 286) makes the following statement: "The sprinkling may be expected only when the wounded artery is small, or when the blood is effused at a distance. This is a fact which medical jurists should not overlook;" but he adds that it may be accidentally sprinkled from a vein. He says also (p. 277), "The hand and weapon cannot escape being marked with blood." He says also, "Sprinkling of blood, when it exists, may be evidence that it came from a living body."

BLOOD ON THE INSTRUMENT.

It is universally admitted by the authorities that in suicidal cut-throat there must be a certain amount of blood upon the instrument with which the wound was inflicted, and also upon the hand that carried it; but in regard to how much of blood there should be on each, and in what relation it should be found, they are almost entirely silent. In this instance it did not appear that the blood covered the razor blade, but that it was collected in rather narrow bands and in spots upon different portions of it, a band of moderate width being described near the edge of the instrument. It was urged by the prosecution that this was an inadequate show of blood upon the weapon. By the defense it was claimed that upon a polished instrument of any kind, and especially upon a razor that had been stropped on oiled or greasy leather, blood would dispose itself as water does upon such instruments, and thus cannot be made to cover the surface uniformly, but will collect in lines and drops, much as the blood was supposed to have collected upon the instrument in this case. This is a subject, however, concerning which surgeons have the means of forming more accurate opinions than physicians. The most definite statements we find on this topic are made by Taylor. Thus (p. 279) he says: "The blood on the instrument may be partly coagulated and not diffused as a mere film; this would render it probable that it had issued from a living person or animal, or from a recently dead body." Again, in the same page, he adds: "Particular attention should be paid to the manner in which the blood is diffused over the weapon. It is not unusual for a criminal to besmear with blood a knife or other weapon which has probably not been used." Thus it would seem probable, had this instrument not been used to make the wound, but obtained for the purpose of deception, as was believed by some of the witnesses for the prosecution, that the blood would not have been found collected irregularly on it, but it would, in Taylor's language, have been "besmeared" and very generally "diffused."

SUFFOCATION AND HÆMORRHAGE CONCURRING.

The fact that suffocation may occur in cut-throats seems to have attracted but little attention from medical jurists, yet the fact is distinctly announced by several authorities, and is recognized in some of the reported cases. This may occur in either of two ways: by the retraction of the trachea, and its obstruction by the soft parts, or by the filling of the trachea with blood from the wound.

Briand and Chaudé (*Legal Medicine*, p. 309) state that if the trachea alone is cut, the inferior end retracts into the soft parts, the air no longer penetrates to the lungs, and death occurs from suffocation: if vessels are wounded at the same time, death is produced by suffocation and hæmorrhage.

Orfila (*Legal Medicine*, ii. 506) states, "when the trachea is completely divided, the inferior end is retracted and hidden in the neighboring parts, and the person dies of suffocation."

In the case already referred to under the head of sprinkling observed by Adelon, Dubois, Boyer and Rami (*Annales d'Hygiène*, xv. 394), these observers all recognize the fact that the blood will flow into the trachea and cause asphyxia. It is stated in their case that the trachea was retracted one inch, and that blood was found in the air tubes and assisted in destroying life. The lungs were much engorged. In a case recited by Devergie (*Legal Medicine*, ii. 117), homicide was committed by cutting the throat with a pair of scissors. The trachea was completely divided, as was the vertebral artery. Death was produced by hæmorrhage and asphyxia, blood being found in the bronchial tubes.

In the case of the great wound already referred to, reported by the same author (*Annales d'Hygiène*, 418), it is stated that "the blood was introduced into the right bronchus only, and had penetrated into the last ramification of the tube; nothing similar was observed in the left."

In Leuret's case (*Annales d'Hygiène*, v. 236) already cited, that of the officer who cut his throat with embroidery scissors, the trachea and right carotid artery were completely divided, and the left jugular vein and œsophagus partly, and blood had penetrated into all the air tubes.

In a case of homicidal cut-throat reported by Bayard (*Annales d'Hygiène*, xxxix. 433), the trachea and thyroid arteries were divided and the trachea and bronchi were filled with frothy blood, and the lungs were congested.

The fact that death may occur in this manner, and that asphyxia may play an important part in cut throats, through blood introduced in the manner here indicated, is recognized by Taylor (p. 296). He says, if in case of a wounded throat blood should flow into the trachea, it may cause death by asphyxia. In the case under consideration, the opinion has already been expressed that blood did in this manner enter into the breathing tubes and lungs more upon the right than upon the left side; and while it is admitted that this would be a sufficient cause for engorgement of the lungs, had such engorgement really existed, the statements already made show that the quantity of blood contained in these lungs was really less than is usually found in death from common causes;

at the same time it is altogether probable that these organs contained a larger quantity than if the person had died from wound of the carotid arteries without opening the windpipe.

ECCHYMOSIS OF THE TONGUE.

In nearly every instance that has been reported of suicide and homicide by wounds of the throat, the condition of the tongue has not been stated. It is more commonly referred to, and its condition described in the various forms of asphyxia. There appears to be abundant evidence of the fact that the tongue is frequently bitten when asphyxia is produced by suspension. In other forms of asphyxia, this accident does not appear to be of any particular significance or value. The opinion was expressed on the trial of this cause that biting and ecchymosis of the tongue might be the result of suffocation, but the witnesses for the prosecution failed to produce a single instance or a single professional opinion in favor of this theory, and it seems that it would be quite as natural to infer that the lesion in this case resulted from the spasmodic contraction of the muscles moving the lower jaw in the act of death as from any other cause. It is no objection to this view that both carotid arteries were cut, and that therefore the supply of blood to the tongue was in a great measure cut off, inasmuch as Christison and others have demonstrated that ecchymosis resembling that which occurs during life can be produced by violence on the dead body for about two hours after the heart has ceased to beat. Then, again, it is possible that this ecchymosis may have occurred many hours, or even two or three days before death.

Referring to the distinctive marks of hanging, Orfila (*Annales d'Hygiène*, xxvii. 143), after saying that the features, lips, and eyelids were swollen and livid, eyes red and prominent in most instances, refers to the tongue, stating that it is often but not always swollen, livid, and protruding, and adds: "If the tongue be bitten, bears marks of the teeth, and is more or less ecchymosed, this fact might give rise to the presumption of hanging."

Prof. Remer of Breslau (*Annales d'Hygiène*, iv. 178), recounting the signs of suffocation, makes the only statement that I have been able to discover which implies any relation between the biting of the tongue and suffocation. He says, regarding the tongue: "It is sometimes protruded, sometimes retracted, sometimes it is bitten in suffocation; this may be altogether unconnected with the mode of death. It is bitten or not in all kinds of death, and the fact that it is or is not bitten cannot be relied on as a sign of suffocation." This opinion, and the absence of any positive proof of the connection here sought to be established, would seem to be quite sufficient to exclude the fact from the affirmative evidence in a trial of this sort, and attach it alone to death by suspension. The condition most commonly referred to as belonging to asphyxia from violence is congestion, not ecchymosis, and this congestion is described as having its principal seat at the root of the tongue, and not at the sides where this discoloration was noticed.

DIRECTION AND CHARACTER OF WOUND.

To my own mind there is no fact in this case which is so opposed to the theory of homicide, as the particular character of the wound by which death was produced. Penetrating on the left side directly inwards towards the centre of the neck, cutting the muscles and deep tissues to the depth of nearly three-quarters of an inch, as far posteriorly as the skin, then terminating upon the right sterno-cleido-mastoid muscle, or rather a little beyond it, cutting the skin, and half an inch farther than the muscle was cut; it is a wound which could not have been inflicted by a person standing on the left side of the body, and must have been made by the right hand, either of the woman herself, or of a person standing behind her, in such manner that his right hand might take the place of hers. The bed, as has been stated, was four feet four inches wide; the body of the woman occupied the left half, nearly or quite to the centre. There was no evidence that the bed had been moved, and no evidence of any other person but herself having been upon it. There was evidently not room for a person to take an attitude upon his knees at her right hand, and there inflict the wound, even had it been possible to have made such a cut in this attitude. Besides all this, a wound prolonged at its right extremity as this was, cannot be made by a person upon his knees, and so near to the body, facing it, as he must have been, had any part of this supposition been true.

The direction of the wound seems to be of some value in determining whether it was inflicted by herself or another person. The rule which applies to it seems to be received with many exceptions, and yet, when a particular direction is observed, it equally seems that the authorities attach importance to it. Thus Briand and Chaudé (p. 266) state that almost always in a suicide the instrument is directed from left to right, and from above downwards; while in assassination, on the contrary, the wounds are ordinarily made from right to left, and from below upwards, if the assassin is in front of his victim. Dieffenbach (above cited) speaks of the frequency with which in suicidal cut throat the wound is directed from left to right, and from above downwards, saying also that these wounds are ordinarily single.

Taylor (p. 266) refers to this point in the following language: "The direction of a wound has been considered by some to afford presumptive evidence sufficiently strong to guide a medical jurist in this inquiry. It has been remarked in most suicidal wounds which affect the throat, that the direction of the cut is commonly from left to right, either transversely or passing obliquely from above downwards. * * * * In left-handed persons, the direction, of course, would be precisely the reverse. Suicidal wounds are, however, subject to such variation in extent and direction that it is scarcely possible to generalize with respect to them; nevertheless an attention to this point may sometimes be of real assistance to the inquirer." Again (p. 267) regarding the character of the wound he says: "Homicidal incisions, especially in the throat, are often prolonged below and behind the skin, forming the angles of a wound deeply into the soft parts; those which are suicidal rarely possess this character." The deceased and the accused are both right-handed.

POSITION OF THE BODY.

It will be remembered that little or no blood was described as having been seen below the upper border of the flannel dress that was next the skin on the chest, yet that there was a considerable spot of blood upon the sheet turned down upon the lower part of the body. The question of the position of this person when the wound was inflicted, whether seated or lying upon the bed, is one regarding which there is some doubt, and the question was raised whether it was possible to inflict this wound upon herself lying upon her back.

In my judgment this is the strongest point in the case for the prosecution, not because there is any difficulty in inflicting the wound, for there is none, as any one can convince himself by lying down either on the floor or on a feather-bed (the bed in this case was of feathers), and making the necessary motions; but because it is a position rarely chosen, and seems to offer fewer facilities to this kind of suicide than the sitting attitude. The body and head were found inclined a little to the right, but there is not even a probability that this was the position in which the wound was inflicted. There were certainly some movements after the fatal wound was received. There was more blood on the right side of the body than on the left. This would only show that the deceased turned to this position while the bleeding was yet free. Taylor (p. 284) remarks that, "if the throat be cut while a person is lying down, it is obvious that the blood will be found on either side of the neck and not extending down the front of the body. Few suicides cut the throat while in a recumbent posture, and the course which the blood has taken may, therefore, be rendered subservient to the distinction of a homicidal from a suicidal wound." Had it been shown in this case, that the wound was really inflicted while the woman was lying down, in my appreciation, the other circumstances are so controlling as to place this case among the "few suicides *who* cut the throat while in a recumbent posture."

LOSS OF BLOOD.

At one stage of this trial, while it yet appeared that the quantity of blood lost was inconsiderable, it became of importance to ascertain what was the smallest loss that had proved fatal in the recorded cases.

In the case of Augustus Dautun (Beck, ii. 141), murder was committed, and the body afterwards cut to pieces. Dupuytren stated that the wounds in the chest were mortal. The thorax contained four pounds of blood.

Mr. Watson mentions a case (quoted by Taylor, 298), in which the internal mammary artery of the left side was divided by a stab in the chest. The man died on the ninth day, and four pounds of blood were found effused in that side.

Mr. Gutteridge (*Lancet*, Oct. 31, 1846, p. 478) reports the case of a woman, aged 36, who received a kick from her husband in the lower part of the abdomen while she was in a stooping position. Seen by Mr. Gutteridge in three-quarters of an hour, she had lost from three to four pounds of blood. She was sinking, and expired a few minutes after his arrival. The wound was entirely external, the left crus clitoris having been crushed so as to expose its cavernous structure.

In Beck (ii. 365) it is stated that a young man, sixteen years old, was stabbed with a nail rod and died in three minutes. The blood lost was one and a half pounds. The thoracic aorta was found wounded.

In the instance already cited, on the authority of Adelon, Dubois, Boyer, and Rami, it is reported that one pound of blood was lost. In this instance, however, it will be remembered there was congestion of the lungs, and blood in the air passages.

In Beck (ii. 348) it is reported on a Boston authority that a prisoner cut his throat, and died with the loss of a pint of blood. It is suggested, however, in this case, that air might have entered the jugular vein.

It would seem, then, that persons whose throats are fatally cut may die on the loss of a pound of blood, and it does not affect the question at issue that a circumstance other than the mere loss of blood aided to produce the death. The question is, What is the smallest loss of blood, which of itself alone, or complicated with other circumstances incident to such wound, may prove fatal in a cut throat? The question of how much blood the body naturally contains, though raised in this case, is in no manner essential to the issue.

Taylor (297), referring to some of these cases, says: "Females are more easily destroyed by hæmorrhage than males," and adds (p. 298), that according to Mr. Watson, the loss of five to eight pounds will ordinarily prove fatal, but that many persons will die from a much smaller loss; the rapidity of the flow exercising a great influence, as when a carotid is cut.

SUFFOCATION.

The circumstances which seemed to have been relied on as the proofs of suffocation, were: the alleged engorgement of the lungs, the pulmonary apoplexy, the bloody pleuritic effusion, the small quantity of blood supposed to have been discharged from the wound, a certain amount of oozing from the cut vessels at the time the wound was dressed by the physician, and the blood which was discovered in the dressings at the first post-mortem examination.

These have been all remarked on except the last. Regarding the quantity of blood lost, while it has been shown that any quantity from a pint upwards may be with other circumstances attending upon cut throats sufficient to destroy life, the course of the evidence showed a much larger quantity than was at first supposed. With reference to the oozing of blood from the cut vessels, the witnesses for the prosecution were not all of the same opinion as to its significance, one of the most experienced stating that blood would continue to flow for a considerable time after death, but chiefly from the veins. As a matter of fact, however, it did not appear that the oozing after death was considerable, making allowance for a clot which was found in the wound and washed out at the time of the dressing.

Taylor (p. 299) makes the following statement regarding this circumstance: "It must not be supposed that all the blood met with around the wounded dead body was actually effused during life. As soon as the heart's action ceases, the arteries pour out no more, but the blood, so long as it is fluid, that is from four to eight or ten hours, and the warmth of the body is retained, continues to drain from the divided veins and smaller vessels. The quantity thus lost is not very considerable, unless the veins implicated are large."

The dressings of the wound, as observed at the first post-mortem examination, appear to have been: 1. A bandage extending around the neck. 2. A compress laid over the closed lips of the cut; and 3. Some cotton-batting that had been placed in the wound. These, it is stated, were filled with blood. The interpretation at first given was that it was drainage from the vessels left full from suffocation, but on further consideration it was admitted that all the blood found there, and more, might have come from the cranial cavity, expelled after the development of gases by decomposition. The circumstances which seemed to weigh as negatives upon the same question were: the entire emptiness of the heart in all its cavities, the empty state of the large internal blood-vessels, both arteries and veins, the entire absence of static congestion, and cadaveric lividity, as well as the unusual bloodlessness of every viscus of the body, the lungs, and probably the brain, excepted.

A circumstance already mentioned may weigh as evidence against the supposition that she was suffocated to death before her throat was cut, that is, the fact observed by one or more of the women (on laying out the body) that blood bubbles were noticed to rise out of the trachea. The trachea then was filled with frothy blood. This could hardly have been in the winter season, and within a few hours of the death, had there not been breathing after the throat was cut, and after the blood had entered the air-tubes.

Another circumstance of great significance, was the entire absence of any marks of violence upon the surface of the body, even the slightest, excepting always the fatal wound. The suffocation of infants is easy, and is doubtless often effected without any marks that would lead even to the suspicion of murder. The same may be true of persons much enfeebled by disease or insensible from intoxication or narcotic drugs, but the case is very different with adults and persons not enfeebled or poisoned. The examination of the records will probably fail to show a single case in which a mark or marks, considerable or slight, have not been left upon the body of such persons. It may be the cartilage of the nose has been crushed, the larynx may have been broken; there may be marks of the nails, or scratches upon the cheek; the upper lip may be ecchymosed, and even tumefied; and marks of the fingers may be found upon the neck or face, or ecchymosis, more or less considerable, resulting from a struggle; upon almost any part of the body evidences of bruises and ecchymosis; but that an adult of ordinary strength can be suffocated without leaving some mark, seems almost impossible. The instance claimed as that most nearly free from such external evidences was that of Margery Campbell, suffocated by Burke. "In her the features were rather more turgid than natural, the lips dark, conjunctivæ much injected, a little blood in the left cheek apparently from the nostrils; scarf-skin under the chin much roughened, and the skin brown and dry where denuded; the hyoid bone and thyroid cartilage farther apart than natural by the stretching of the interposed ligaments." Thus when Prof. Christison stated that these circumstances would not of themselves alone justify the opinion that this woman was suffocated, he did not by any means say that there were no marks that might lead to the suspicion of suffocation. It must be further noted that no scratches or marks of resistance of any kind were proved upon the person of the accused; and in this connection, it is proper to say that no stain of blood was found on his person, or clothing, or anything that was in habitual use by him, the razor only excepted.

The accused is slight in figure, exceeding in weight that of his wife only by twenty-five or thirty pounds. The disparity of strength could not have been very considerable; it therefore may be fairly questioned whether he possessed the physical strength to accomplish homicide in this way.

It is true Taylor remarks (p. 822), that "there are rarely any considerable marks of violence externally," but he further states under the head of "Homicidal Suffocation" (p. 827), "Hitherto the cases that have come before our Courts of Law have been those of infants and of the aged and infirm, and persons enfeebled by illness;" and again (upon the same page), "Homicide by suffocation would not be attempted on healthy persons, unless they were in a state of intoxication, and thereby rendered defenceless. It is certain that most individuals would have had it in their power, unless greatly incapacitated by disease or intoxication, to offer such a degree of resistance as would leave upon their persons indubitable evidences of murderous violence." Again (p. 830), "Certain trials which took place some years since, clearly prove that individuals in a state of intoxication or infirmity, have been murdered by smothering, for the sake of the money derived from the sale of their dead bodies. It will be sufficient to mention the trials of Burke and McDougal in Edinburgh, and of Bishop and Williams in this metropolis (London). The victims were commonly destroyed by the murderer resting his whole weight upon the chest, so as to prevent the motions of the ribs, and, at the same time, forcibly compressing the nostrils and mouth by his hands to prevent the ingress of air." The case of Margery Campbell, just referred to, illustrates the kind of external evidences which this class of cases would be likely to furnish.

A curious instance illustrating the points here under consideration, is recited by Cazauvieilh (*Annales d'Hygiène*, xvi., p. 123). A man, twenty-nine years old, married at twenty-four, for three years gave no proof of conjugal affection, and then his wife only received once, in two or three years, some caresses; later, every spring, he experienced insomnolency, pain in the head and epigastrium, redness of the face and sadness. He then often spoke of death, and said, "He would hang himself, but would strike a good blow before that." When in bed with his wife, he would make very frequent attempts to strangle her, seizing her by the throat. If she disengaged one hand, he persisted in his attempt with the other. Not able to accomplish his design, he would tear her flesh. He renewed these efforts every spring for fifteen years. After a time there was less regularity in these excesses, but he became habitually irascible, unkind, and subject to exaltation of ideas.

These statements and circumstances lead to the conviction that strangulation, under the circumstances of this case, would not have been easily accomplished.

Finally, nothing of the subpleural ecchymosis, regarded by Tardieu & Bayard as characteristic of suffocation, was found in either post-mortem examination; nor was any bloody effusion found under the scalp or serous pericardium.

There are other points in this case that have been interesting to myself, which may perhaps be presented should the subject excite discussion, but I close the presentation of the case for the present, with the statement that this woman was habitually jealous of her husband to an extreme degree, and on two occasions, at least, had been insane.

DR. HENSCHEL asked if the blood-marks upon the face could not have been made by the left hand; if so, she could not have made them herself.

DR. CLARK stated that it would be a valuable point to determine whether it was the right or left hand that had made these marks, but from the testimony it could not be ascertained.

Dr. Griscom hoped that the points referred to by Dr. Clark in his recital would be thoroughly discussed, inasmuch as a case of cut throat had lately occurred, in which it was very questionable whether it was suicidal or homicidal in character. In consequence, however, of the lateness of the hour, he moved that such discussion be postponed until a future time.

The Academy then adjourned.

On the Animal Substances employed as Medicines by the Ancients. By G. J. Fisher, A.M., M.D., of Sing Sing, N. Y. (Read before the Westchester County Medical Society, June 11th, 1861.)

> "Declare the past and present state of things."—*Dryden.*

Having on a number of occasions observed that various animal substances or products are, in this enlightened day, employed as popular and domestic remedies in the treatment of certain diseases and injuries, I have been led to investigate the history of their origin and use. An attempt has been made to ascertain how far their employment has resulted from accident or superstition, and to determine whether their continuance in use depended upon their possessing any of the medicinal properties which have been ascribed to them, or is in consequence of a blind devotion to authority, which has resulted in an established routine. Also, to determine, as far as my leisure and available means of research would afford, whether the profession or laity were most responsible for having introduced into the Materia Medica a list of animal products so disgusting, that their narration would produce a nausea in the least fastidious.

After a careful perusal of the works of Hippocrates, Celsus, Paulus Ægineta, MM. Pomet, Lemery, and Tournefort's History of Drugs, James' Medicinal Dictionary, (3 vols., folio, London, 1743,) the Dispensatories of Quincy, and other authors of over a century past, I was not a little surprised to find that most of the absurd animal remedies now in popular use can be traced to a remote antiquity; indeed, that the few which are still occasionally employed by the non-professional are the merest moiety of the formidable and sickening catalogue which swelled the list of simples of the ancient Materia Medica, large numbers of which were continued in the Dispensatories until within about a century of the present time.

The substances under consideration were doubtless first used in the treatment of disease by physicians. Their introduction into the Materia Medica was in consequence of preconceived hypotheses and false analogies, resulting from a want of knowledge of general and organic chemistry, and of the physiology of digestion and nutrition. These false theories led them to *expect* certain results, which a blind devotion to their favorite views rendered them unable to discover were either useless or positively injurious. The supposed virtues of the article having been declared by one high in authority, it continued in use in obedience to this declaration, and hence by an established custom.

It was a favorite idea of the ancient physicians, that the use of the healthy parts or organs of animals, as food or medicine, would restore to health similar enfeebled or diseased tissues or organs in the human body.

Thus it was in the ancient and early history of medicine, and to no little extent is it now true, that the mass of medical men depend on the observations, experience and opinions of a few leading spirits, who are supposed to possess superior advantages or talent.

In Pomet's "Complete History of Drugs," dedicated, by permission, to Sir Hans Sloane, and published only a little more than a century ago, nearly one hundred quarto pages are devoted to an account of animal medicines. The following is a specimen of his therapeutical logic, to be found in the preface of the work:

"The different degrees of volatility that are in animal substances give them different virtues one from the other; so those which have so very volatile salts are usually reckoned cephalick and diaphoretick: as the *Viper*, *Human Skull*, *Hart's-horn*, *Goat's blood*, *Elk's-claw;* because the matter being heated in the *Viscera*, pushes forth their salts into the brain, and by the pores of the body. Those whose substance is less volatile have an aperitive virtue, such as is to be met withal in *Hog-lice* and *Craw-fish;* because the salts of these animals being heavier, are more inclinable to precipitate and open the urinary passages."

The Materia Medica was in harmony with the philosophy. As science advances, and the investigation of the properties and effects of medical agents is rigidly pursued, notwithstanding the continued discovery of new territory, and of new elements, both organic and inorganic, the tendency is to constantly diminish the number of substances worthy of a place in our Pharmacopœias.

The Materia Medica of Dioscorides contained an account of the history and virtues of nine hundred and fifty-eight simples; embracing ninety minerals, seven hundred plants, and one hundred and sixty-eight animal substances; which is nearly triple the number of officinal simples contained in any of the Dispensatories of the present day.

The last edition of the United States Pharmacopœia (1850) enumerates in the officinal list of the Materia Medica two hundred and forty-four articles, of which one hundred and ninety are vegetable, fifty-four mineral, and only sixteen animal substances. The secondary list, of the same edition, contains ninety-one articles, all of which are vegetable. The total number of articles in the officinal and secondary lists of the National Pharmacopœia is three hundred and thirty-five, of which two hundred and eighty are derived from the vegetable, fifty-four from the mineral, and sixteen only from the animal kingdom.

The animal products are as follows: Lard, suet, neat's foot oil, cod-liver oil, spermaceti, isinglass, egg, castor, musk, Spanish-flies, potato-flies, cochineal, sponge, bone, animal charcoal, and oyster-shell. More than half of these are not supposed to possess any strictly medicinal properties, being used chiefly as pharmaceutical auxiliaries.

The following is a list of animal substances which I find particularly mentioned in the works above referred to. A large proportion of them were employed as medicines previous to the time of Hippocrates, and continued in use until within a century of the present time.

It will be seen that every class of the animal kingdom contributed to the ancient Materia Medica. I have attempted to arrange them, from all the above-cited sources, under the following appropriate heads—mammals, birds, reptiles, fishes, crustacens, insects, mollusks, and radiates.

1. MAMMALS.

Supplied the following drugs: (?)

Man—Mummy, man's skull, moss of a dead man's skull, dead man's hand. Royal touch, hair, nails, fat, marrow, heart, blood, milk, semen, ear-wax, sweat, saliva, urine, stone in the bladder, menstrual discharges, dung, secundines or after birth, and the membrane found around the head of the fœtus.

Cow—The bile and dung.

Bull—The horn and blood.

Ox—Fat, bile, dung, ankle and thigh bones.

Goat—Fat, liver, bile, blood, urine, dung, horn, and balls of hair found in the stomach.

Bezoar—Stone in the stomach, (Bezoar stone.)

Sheep—Wool, skin, brain, bile, dung.

Camel—Brain, rennet, urine.

Stag—Flesh, blood, sweat, tears, fat, marrow, brain, lungs, heart, bone of the stag's heart, *(os de corde cervi,)* balls of hair found in the stomach, horn, hoof, tooth, tail, testicle, and penis.

Roebuck—Liver, bile, rennet, dung.

Hart—The horn.

Antelope—The rennet.

Chamois—Blood, fat, liver, bile, dung, and the stone found in the stomach.

Elk—Hoof.

Horse—Blood, rennet, dung.

Ass—Liver, dung.

Mule—Urine.

Elephant—Teeth, bones, hoofs.

Rhinoceros—Horn.

Hippopotamus—Testicle, fat, ashes. "A ring made of the pizzle, and worn, is said to cure the cramp."—POMET.

Hog—Fat, bile, dung, ankle-bone.

Hedgehog—Flesh, skin.

Lion—Fat.

Cat—Dung. Blood of black cat's tail, (modern.)

Hyæna—Bile.

Bear—Skin, fat, blood, liver, bile.

Wolf—Liver, dung.

Fox—Whole animal, fat, lungs.

Dog—Fat, liver, dung.

Weasel—Entire animal, brain, stomach.

Bat—Blood.

Mouse—Head, dung.

Musk-rat—Testicle.

Beaver—Castor.

Hare—Ashes, hair, head, brain, eye, lungs, heart, blood, coagulum, liver, bile, kidneys, uterus, testicle, astragalus, rennet, dung.

Seal—Rennet.

Sea Cow—Bone or stone in the head.

Unicorn (?)—Horn.

Whale—Spermaceti, which, Pomet says, is the brain, and that "In the year 1688, there was one taken by a *Spanish* ship, that carried it to *St. Sebastian's*, from the Head of which were taken twenty-four barrels of Brain, and from the Body ninety-six barrels of Fat. They ought to be undeceived who believe that *Sperma Ceti* is anything else but the Brain of the *Cachalot;* and I can affirm this with Certainty."

2. BIRDS. (*"Medicinal Birds."*)—POMET.

Domestic Fowl—Fat, blood, bile dung. The *Cock*, his brain; and the *Hen*, her stomach.

Duck, Tame Pigeon, Owl—Blood.

Peacock, Stark, Starling—Dung.

Hawk, Partridge—Bile.

Goose—Blood, fat, dung.

Wild Pigeon—Blood, stomach, dung.

Ring-Dove—Blood, dung.

Swallow—Entire bird, blood, brain, dung.

Cormorant—Liver, stomach.

Lark, Sparrow—Entire bird.

Kite—Head.

Ostrich—Flesh, skin of the stomach, fat.

Eagle—Flesh, bile, brain, dung, testicles, and "a stone that is found at the entrance of the hole where the bird builds her nest." (The eagle-stones were said to procure easy and safe labor, and to prevent miscarriage).

Vulture—Flesh, fat, brain, gall, dung.

Frigate or Man-of-War Bird—"The oil or fat is a sovereign remedy for *sciatica* pains, and for all others proceeding from a cold cause."

Birds' Nests—Several kinds were in use, especially those of a species of swallow found in China. Pomet says, "The Chinese assign mighty virtues to this nest; as it nourishes extremely, being boiled in water with a fowl and ginger. They reckon it very good for curing pains at the stomach, and for restoring those that are in a languishing condition."

3. Reptiles.

Crocodile—Blood, dung.

Lizard—Entire animal, head, liver, blood, dung.

Chalcidic Lizard—Entire animal.

Sea-Skink— (a kind of lizard)—Entire animal, kidneys, belly, or stomach.

Swift—Entire animal.

Salamander—Entire animal.

Chamelion—Blood.

Frog—Entire animal, blood.

Toad—Entire animal, blood, oil, volatile salt, and stone in the head.

Turtle (Land)—Blood, oil.

Tortoise (Sea)—Volatile salt, oil, bile, blood.

Serpent—Skin.

Viper—Trunk separated from the skin, intestines, &c., fat, skin, gall, heart, liver, volatile salt of the entire animal.

Pomet says, "You ought to be careful that every bundel or parcel of vipers, which is usually a dozen, have the hearts and livers along with them, these being the most noble parts of the animal. Vipers ought to be heavy, large, long, well dried, and the freshest killed that can be got," &c. He also adds, "Both for external and internal uses there is scarcely found a more universal medicine than the volatile salts of vipers." "All other preparations of vipers, as powders, fixed salts, tinctures, decoctions, broths, jellies, wines, essences, troches, elixirs, extracts, &c., compared with the volatile salt, are nothing, for in that is to be found the sum of all that is in the viper."

4. Fishes.

Narwal, (sea-unicorn,) horn, oil.

Shark, bone of the head, spawn, and fossil teeth, which were worn in strings about the neck of children to aid in cutting their teeth, &c.

Anchovy, head; the whole fish was applied to the feet in fevers.

Herring, head. *Shad,* entire. *Tunny* or *Spanish Mackerel,* volatile salt. *Torpedo,* live animal, oil. *Triglar* or *Mullet,* entire. *Pastinaca marina,* whole fish.

Calionimus, bile. *Hippocampus,* entire, ashes.

Sea-Scorpion, oil, bile. *Fish* of several species, isinglass. *Alcyomia* consisted of the bones of fishes vomited by the kingfisher.

5. CRUSTACEANS.

Crab, (sea,) entire, ashes, claws, eyes. (?) *Hermit Crab* or *Soldier*, ashes, oil. *Squilla*, entire.

6. INSECTS AND WORMS.

Ants, volatile salt. *Grasshopper*. *Cicada* or *Harvest Fly*. *Cantharides*. *Cockroach*, entrails. *Melœ*. *Buprestis*. *Bees* or *Honey-Flies*, whole insect, honey, wax. *Dog-tick*. *Spider*, entire, web. *Caterpillar*. *Cochineal*. *Centipede*. *Scorpion*, ashes, oil. *Earth-Worms*, volatile salt.

Silk-worm, cocoon: the raw silk taken in powder, says Pomet, "makes the heart pleasant, the spirits brisk, and cleanses the blood."

Millepedes, (sow-bugs or hog-lice,) volatile salt, oil, and powder. The above cited author says, "Of millepedes there are many preparations, but the best way of taking them is certainly swallowing them alive; and the next to that, their expression made with wine."

7. MOLLUSKS.

Harpa, *Nerita*, *Helix pomatia*, and other snails. *Solen*, *Oyster*, *Purpura*. *Buccium*, many species. *Limpet*, *Pearl-Shells*, several species. *Dentalium*, *Teredo*. *Strombus*, and other shells, furnished their opercula or lids. *Cuttle-fish*, entire, bone, ink-fluid. "The eggs or spawn of the cuttle-fish provoke urine and the terms." —*Pomet*.

It is impossible to identify many of the shells which were used in ancient medicine. Shells generally were regarded as "good sweeteners of the blood; also good against a canine apetite, a flux of the belly, and a hæmorrhage."

8. RADIATES.

Echinus, (or sea-urchin, or sea-eggs,) *Coral*, *Sponge*. After such a list, who would not say—

> "Throw physic to the dogs, I'll none of it?"—*Shak.*

It is possible that by a more diligent and critical examination of ancient Pharmacopœias and Dispensatories, the list of animal drugs could have been farther extended. However, I have presented, at the lowest computation, a catalogue of two hundred and eighty-five articles, of which, 38 mammals supplied one hundred and thirty-five drugs, 21 birds forty seven, 13 reptiles thirty-four, 12 fishes twenty-one, 3 crustaceans seven, 17 insects and worms twenty-three, 15 mollusks fifteen, 3 radiates three; total, 122 animals specified, furnished 285 simples of the materia medica employed by the ancients, most of which were continued in quite general use until within about a century of the present date!

To treat of the virtues which were attributed to these articles, and the countless preparations into which they entered, would require a large folio volume. The limit of the present essay will barely permit me briefly to allude, by way of illustration, to some of the medicinal properties and uses of the several parts of the stag, and of the human body, as recorded in the old Dispensatories.

The above table or catalogue of animal medicines will not be found in any work; it is the result of considerable research, extended over many volumes.

It was at first contemplated to classify the animal products, and treat of their virtues and application under distinct heads; space would not permit. We find in the above list 23 varieties of blood, 15 of bile, 4 of urine, 7 of brain, 13 of liver, 26 of fæces, &c., &c.; almost *ad infinitum*, certainly *ad nauseam*.

The examples selected will serve to illustrate the great variety of the products obtained from a single body, the false and superstitious notions which led to their employment, and the absurd ideas entertained in regard to the effects supposed to have been produced by them in the treatment of disease.

The Stag—This was regarded as one of the most important "medicinal animals" of the ancients. The head and horns have been used as the coat of arms or symbol of Pharmacy from time immemorial, and are yet quite generally to be seen over the doors of the apothecaries in Belgium and other Continental countries.

Almost every portion of the stag was supposed to possess medical virtues, and was used as an antidote to poisons.

The *dried tears* of the stag, which are the sordes collected in the inner angle of the eye, resembling indurated ear-wax, in doses of three or four grains, were said to be good "against poisons, contagious diseases, difficult labors, and for expelling the dead fœtus. As an amulet, when tied to any part of the body, it was reputed to prove effectual against poisons."

The *tooth*, and the *hoof* (if taken from one of the right feet) possessed the same virtue.

The *stag's skin* was used against strangulations of the womb.

"A belt made of the skin of a stag, killed while in the act of copulating with the female, is found from experience to be possessed of singular virtues. When applied to the loins, it is said infallibly to promote the expulsion of the fœtus. The shavings of the skin taken off with pumice-stone, and triturated with vinegar, are said to be proper for anointing an erysipelas. A man clothed in a stag's skin is proof against poison."—*James' Med. Dic.*

The enmity between the stag and serpents was supposed to account for its anti-toxical properties.

The *brain* was used for pains in the hips and sides, and also for the cure of fractures; "but," says Dr. James (vide *Med. Dic.* 1743), "as we have great plenty of such mollifying medicines, the brain of this animal is not at present kept in the shops."

The *rennet* of the calf of the red deer was used for "stopping immoderate discharges of the menses, and resolving coagulated milk; also for the cure of epilepsy."

The *heart*, and the *bone of the stag's heart* (which was either from the valves or large vessels occasionally found ossified), were used to antidote poisons; to procure longevity; as a specific against abortion; for the cure of pleurisy and diseases of the heart. The usual dose was ʒss. in powder. It was also used as an amulet in violent hæmorrhages, and as a defense against the bites of venomous animals.

"If the testicles or pudenda of any animal be anointed with the *stag's tail*, calcined and triturated with wine, it quickens the desire of venery in that animal, and it produces the same effects in men; it is said that by its acrimony it irritates the fibres, and produces that degree of rigidity requisite for a due erection." Dr. James says, "The tail of this animal is not, however, kept in the shops."

The *marrow* of the bones of the stag was used as an application to the neck and mouth of the womb, for inflammation, induration, or ulceration. It was also esteemed as an antidote to poisons, and "to adorn the skin."

The *fat* or suet of this animal, according to Dioscorides, was used to soften tumors, for ulcers, dysentery, etc. Hoffman directed it to be laid on linen cloth, melted by the fire, and applied to the gums, and says, "it surprisingly alleviates toothaches, and extracts the worms which create the pain."

The *ankle-bone* of the stag was accounted a remedy for colic, dysentery, and stone in the bladder.

The *horns* were the most celebrated in medicine; from these the spirit of hartshorn or aqua ammonia was first distilled; it had many virtues ascribed to it.

The *blood*, when dried, was used in clysters to cure ulcerations of the intestines and inveterate fluxes. It was drank in wine to antidote poisons, and to cure the gout and pleurisy. Dose from half a scruple to a drachm.

The *lungs* of the stag, when smoked and dried, were considered a valuable medicine for cough and consumption. Pliny highly recommended them, but Dr. James remarks, "We can assign no other reason for this, than that stags, by their swiftness, demonstrate the goodness of their lungs."

The *elaphopila*, or hairs collected in the stomach of the stag, goat, and some other animals, were used to restrain hæmorrhages, and as a cure for vertigo. These effects were supposed to be in consequence of the animals climbing very steep rocks without being giddy.

"The *penis* of the stag was said to be of singular use in medicine; but the stag must be killed in the time of coition, for by this means it is of the greatest efficacy in stimulating to venery, owing to the hot disposition of the animal. A drachm of it with a poached egg, and a small quantity of generous wine, proves a very powerful stimulus to venery; also as a powder rubbed on the testicles. If the stag is killed at any time except when in the act of copulation, its penis is an excellent remedy against dysentery and pleurisy; either in the form of a powder of ʒss. to ʒj., or shaven down. It is also used in decoction, and prepared in a jelly, for the cure of colic and hysteria. Dioscorides tells us, that those who are bitten by vipers receive relief by the penis of the stag, triturated and drank with wine.

Man.—"That experience which physicians in different ages have had of the good effects which the parts or excrements of a dead or living human body have had in the healing its like in many diseases, have engaged them often rather to have recourse to it than to what might be had of beasts, and to give the proper descriptions and preparations of the parts of the human body."—POMET.

The human *mummy*, especially the Egyptian, was formerly used in medicine. It was retained in the Edinburgh and Quincy's Dispensatories till within a century of the present time. Dr. James says (1745), "The true Egyptian mummies are very seldom found in the shops, but are what ought to be used in medicine. The next in goodness to these is what is called the Arabian mummy, which is a thick liquor, of a dark color and aromatic smell, flowing out of the bodies, embalmed with myrrh, aloes, etc."

A spurious article of mummy was often sold in the shops. Pomet relates in detail the "rogueries of the Jews," from an eyewitness, who, at Alexandria, was permitted to enter the house of a mummy manufacturer. "The Jew at last opened his magazine or storehouse, and showed him several bodies piled one upon another. Then, after a reflection of a quarter of an hour, he asked him what drugs he made use of, and what sort of bodies were fit for his service. The Jew answered him, that as to the dead, he took such bodies as he could get, whether they died of a common disease, or of some contagion. And as to the drugs, that they were nothing but a heap of several old drugs mixed together, which he applied to the bodies; which, after he had dried in an oven, he sent into Europe, and that he was amazed to see the *Christians* were lovers of such filthiness."

"Mummy is reckoned a good resolvent of coagulated blood, after falls or blows, and a good antiseptic; acting not only by its bituminous and balsamic parts, but also by the volatile salts of the carcass from which it is made. By dissolving it in spirit of wine, we easily obtain a tincture which contains its balsamic qualities. It is given in epilepsies, vertigoes, and palsies; the dose is two drachms, in powder or bolus. It also stops mortifications, heals wounds, and is an ingredient in many compositions."

Human fat, sweat, and *saliva* are all retained in the Dispensatory of Quincy. Pomet says, "As everybody knows, in Paris, the public executioner sells it to those that want it, so the druggists and apothecaries sell very little." "Man's grease is amollient, discussive, anodyne, and anti-paralytic. It is good against gout, &c."

Human ear-wax, says Paulus Ægineta, "cures fissures of the skin about the roots of the nails." Pliny assures us that the wax of the ears cures bites inflicted by men; also the bites of serpents and scorpions, if applied immediately to the part affected. It had many other uses. Internally half a drachm of human ear-wax was used as a specific for colic. It was applied to weak eyes, to boils, wounds, inflammations, tumors of the joints, &c. Pauli says, "Though this unusual and nauseous medicine were of so much worth and excellence, that nothing could be objected against it, yet there are many remedies already approved, and more pleasant in themselves, by which the intentions with which this medicine is prescribed may be equally well answered; for who doubts the salutary effects produced by spermaceti in the colic? Or who doubts that the balsam of Peru or Copaiva are excellent vulneraries? Not to mention other things exhibited, with greater applause, by more cleanly and skillful physicians."

Human Urine.—Quincy remarks, "Some have got a notion of this being good for the scurvy, and drink their own water for that end. Some commend it, boiled to the consistence of honey, for rheumatic pains, rubbing it into the parts affected; in which case it may do good, because it cannot but be very penetrating."*

"*Human dung,*" says Dr. James, (*Med. Dict.,*) "applied fresh, preserves wounds from inflammation, and at the same time conglutinates them; dried and rubbed on the parts, it is reported to give relief under the quinsy."

"*The human secundines,* or after-birth," says the same author, "is reported to be of some use in medicine. Thus it is ordered to be applied warm, as it comes from the uterus, to the face, in order to remove freckles. A water is also distilled from it for destroying spots and blemishes on the face. When dried and reduced to a powder, it is used internally against epilepsies; for accelerating the delivery of the fœtus, and allaying the pains of wounds. The dose of the powder is from ℈ss. to ℈ij."

The human skull has been highly celebrated for the medicinal virtues it is said to exert in the cure of epilepsy, apoplexy, dysentery, fevers, and arthritic disorders. As an amulet, it was worn to cure consumption, hæmorrhage, and incontinence of urine. Pomet says, "Some virtues are attributed to the skulls taken from gibbets, but in all probability the heats and colds of the seasons have dissipated the greater part. The skulls of criminals newly hanged, stripped of the fleshy membrane, and the brains taken out, being well washed and dried, and separated with a saw from the lower part, are, or ought to be, what the druggists sell by the name of *Human Skull.*" Reiger cautions the physician who prescribes this medicine uncalcined, "to take care that the skull which is used did not belong to a person who was infected with the pox, which frequently attacks this part." Juncker remarks, "When exhibited with other ingredients it is sometimes found of some efficacy in epilepsies, but very seldom when given alone." The principal shop composition in which a skull is an ingredient, says Dr. James, (*Med. Dict.,*) is the Pulvis ad Guttetam.

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* Hartman says (*Opera. fol., p.* 72,) he has often witnessed amongst the poor that difficult labor has been accelerated by a draught of the husband's urine!

Quincy very seriously remarks, (1749), "Man's skull, it is to be feared, has obtained a place in medicine more from a whimsical philosophy than on any other account; and therefore we find it appropriated to distempers of the head chiefly."

"*The moss of a dead man's skull,*" under the title of *Usnea Cranii Humani*, was formerly used in all diseases of the head. "The English druggists generally bring these heads from Ireland, where they frequently let the bodies of criminals hang on the gibbet till they fall to pieces. You may see in the druggists' shops of London some of these heads entirely covered with moss, and some that only have the moss growing on some parts; and we ought not to be surprised at the growth of this moss on the skulls of dead men unburied, since we daily see the hair of the head, beard, and some other parts of the human body grow after death, as long as there is any moisture left to supply nourishment to the part; and that the same thing happens to the nails is evident; but whether it will hold as to the teeth, as some pretend, I dare not venture to affirm."—(POMET.) Juncker, in his Therapeutic, affirms that Usnea renders the body so impenetrable, as not to be pierced with a musket-ball. Some writers declare that the moss gathered from the skulls of hanged persons is best; but Paracelsus asserts, that what is found on the skulls of persons broken on the wheel is no less valuable. It was thought that the vital and animal spirits of the deceased person are concentrated in this substance.

Manus Hominis Mortui.—The hand of a dead man was retained in the dispensatories as late as 1749. It was supposed to be of great efficacy in dispersing scrofulous tumors. The part was to be rubbed with the dead hand for some time; and report furnishes us with many instances of cures done hereby, "some of which," says Quincy, "may not improbably be true, both as the imagination in the patient contributes much to such efficacies, and because the sensations which stroking in that manner gives is somewhat surprising, and occasions a shuddering chilliness upon the part touched, which may, in many cases, put the fibres in such contractions as to loosen, shake off, and dislodge the obstructed matter; in which consists the cure. But such practice," he adds, "is too whimsical to be countenanced by any of worth in the profession of physic.

I will omit the remainder of the human products, which were employed by our professional fathers in the treatment of disease, merely mentioning the *Manus Regalis*, or *Royal Touch*, which is idcluded in the officinal list of Quincy's Dispensatory, as a cure for scrofula. After expressing his opinion of its uselessness, he earnestly remarks: "However, perhaps the present Royal Family, whose merits have so justly placed them over us, will never condescend to make use of such a stratagem to awe their superstitious subjects, as may have been necessary to a weak or tyrannical governor."

Here ends my account of the odious animal materia medica, so anciently, and yet so recently employed, in the treatment of human maladies. How striking the contrast of the present neat and pleasant establishment of the apothecary, containing the refined and elegant preparations of modern pharmacy, with the loathsome shops of former days, on whose shelves were piled the moss-covered, grinning skulls of executed felons; the grim and ghastly mummies of ancient Egypt; bundles of dried and contorted vipers, etc., etc.! It must have been in a shop of this character that Romeo applied for a drachm of poison.

> "I do remember an apothecary,—
> * * * * *
> "And in his needy shop a tortoise hung,
> An alligator stuff'd, and other skins
> Of ill-shaped fishes; and about his shelves
> A beggarly account of empty boxes,
> Green earthen pots, bladders and musty seeds,
> Remnants of pack-thread, and old cakes of roses,
> Were thinly scatter'd, to make up a show."

Strange as it may appear to any intelligent person, that such absurd and disgusting remedies should ever have been employed, even in the dark and ignorant period of the world's history; yet how much more remarkable is the fact that, in this enlightened age, with all the facilities for a free and universal diffusion of general and scientific knowledge, credulity and traditional superstition still prevail to so humiliating a degree, that many equally vile and irrational means are employed by quacks, and as domestic remedies, at the present moment!

I have known a medical man, who passed in the community as a respectable practitioner, to prescribe a living hen to be split open and applied to the abdomen, for an inflammation of the bowels. On another occasion, I knew the same man to order a calf to be quickly killed, its liver taken out, and applied, while warm and reeking with blood, to the abdomen of a young girl, who was within a few hours of death from peritonitis! In both cases the doctor explained the *modus operandi* as follows: The hen (or liver) is applied to *draw out* the inflammation; if it succeeds, the flesh will become dark, and speedily emit a putrescent odor! I have frequently known the common people, and, indeed, some otherwise very sensible persons, to give their children large doses of human urine and molasses for croup. A man in Sing Sing, who possesses common sense on common subjects, gave his child, which was about one year old, a quantity of human fæces mixed with urine, as a remedy for spurious croup! I was then called, and found the unfortunate infant prostrated from excessive and persistent vomiting, occasioned by this vilest of vile doses, from the effects of which, and not from croup, the miserable babe died.

Only a few days since, a quack in Peekskill prescribed for a former patient of mine, who had cystic ovarian disease, a decoction or infusion of honey-bees, as a diuretic, to remove the dropsy! I have several times found ladies who were suffering with inflammation or abscess of the breast, with huge poultices of fresh cow-dung, which had been applied to the gland, at the urgent solicitation of some *friend.* I have also seen the fæces of the common hen applied to felons. Sheep or goat's dung, given in infusion, is not an unpopular remedy at the present time for the cure of measles. I have known several persons who have taken this "nanny-berry tea."

A *doctor-woman* in Sing Sing is in the habit of curing the shingles by that time-honored remedy, the blood of a black cat's tail.

While suffering under an attack of tonsillitis, I have been entreated to apply to the throat a living frog, which it was said would hasten suppuration and the bursting of the abscess. The frog is said to die in a very short time after it is applied; and numerous "modern instances" were adduced in proof of the efficacy of this ranine treatment. I have known swallows' nests, boiled in milk, to be used as a poultice for quinsy in several instances.

The royal touch is not employed in this country, for the simple reason that we have no kings or queens; but, as a substitute we have "the seventh son of a seventh son," who is generally believed to possess the supernatural power to disperse all scrofulous diseases. I have heard men and women, in whose veracity on all subjects but medicine I would have implicit confidence, declare that they had known and seen patients cured within a few weeks of obstinate and chronic scrofulous swellings and ulcers, by the laying on of hands of one of these miraculous individuals.

At the present time there is a stupendous quack in the city of New York, one whose fame is not unknown in other localities in this country, whose rooms are crowded by hundreds of patients, many, if not most, of whom are from among the opulent of that great metropolis. This founder of the Newtonian system of cure, who so rapidly accumulates silver and gold, and crutches and canes, from the *weak* and *lame* who seek his marvelous skill, removes their manifold ills in the twinkling of an eye, by the mere touch, and his sacrilegious invocations of Deity. Than this vile and impious wretch, the world has never produced a more successful charlatan.

He claimed to cure every ill that flesh is heir to—ovarian, uterine, and other tumors, &c., &c. I knew several intelligent persons who applied to him, who were assured that their tumors, &c., would speedily vanish.

From these and other facts which could be accumulated, it would at first view appear that superstition and credulity are nearly as rife at the present as at any former period of time. It is not, however, so universal; it is perhaps restricted to a class, which I am sory to say is yet very large, in whom the organ of marvelousness is hypertrophied—a condition which manifests itself in seeking Spiritualism, Clairvoyance, Astrology, Homœopathy, and the kindred delusions of the day. When will the principles of sound education and the elements of good common sense so far prevail, that these ancient and modern absurdities will cease to delude so great a portion of the community?—*Amer. Med. Monthly.*

A Singular Case of Hemiopia, with remarks. By CHARLES A. LEE, A.M., M.D., Prof. of Materia Medica.

Two years ago last July Miss T——, æt. 16, attending a boarding-school, was instantaneously attacked with hemiopia while reading an essay before the school. Her face was observed to flush very much while reading, and the accident was at once discovered. I was requested to see her not long afterwards, and found her laboring under partial blindness of the right eye, obscuring one half the field of vision. Closing the left eye and looking directly forward, she could see just one half of any object, if presented immediately before the eye, viz. *the upper; the lower half being totally invisible.* The treatment, which was generally alterative, locally depletant, and revulsive, and continued for several weeks, produced no change whatever, and the vision is now as imperfect as the day the accident happened.

I believe that temporary hemiopia, affecting the right or left half of all objects, is not very unusual, as I have myself been thus affected at times, and known many others also similarly attacked. Sometimes it has been confined to one eye, but quite as often attacks both. But in all these cases the affection has been but temporary, passing off in the course of a few minutes, or hours, at furthest. The celebrated Dr. Wollaston was repeatedly attacked with hemiopia, as related by himself, in the Philosophical Transactions for 1824 (part i. p. 229), and he made the disease the basis of a theory regarding the "*Semi-decussation of the Optic Nerves,*" published in the same paper. As his case is an extremely interesting one, especially in connection with the morbid appearances of his brain, as disclosed at the autopsy (*Lond. Med. Gazette,* vol. iii. p. 293: Lond. 1829), no apology will be needed for quoting it at length, as well as two other cases which he has related:—

"It is now more than twenty years," says he, "since I was first attacked with the peculiar state of vision to which I allude, in consequence of violent exercise I had taken for two or three hours before. I suddenly found that I could see but half the face of a man whom I met; and it was the same with respect to every object

I looked at. In attempting to read the name JOHNSON over the door, I saw only SON; the commencement of the name being wholly obliterated to my view. In this instance the loss of sight was towards my left, and was the same whether I looked with the right eye or the left. This blindness was not so complete as to amount to absolute blackness, but was a shaded darkness without definite outline. The complaint was of short duration, and in about a quarter of an hour might be said to be wholly gone, having receded with a gradual motion from the centre of vision obliquely upwards towards the left. Since this defect arose from over-fatigue, a cause common to many other affections, I saw no reason to apprehend any return of it, and it passed away without any need of remedy, without any further explanation, and without my drawing any useful inference from it. It is now about fifteen months since a similar affection occurred again to myself, without my being able to assign any cause whatever, or to connect it with any previous or subsequent indisposition. The blindness was first observed, as before, in looking at the face of a person I met, whose *left eye* was to my sight obliterated. My blindness was in this instance the reverse of the former, being to *my right*, instead of the left, of the spot to which my eyes were directed; so that I have no reason to suppose it in any manner connected with the former affection. The new *punctum cœcum* was situated alike in both eyes, and an angle of about three degrees from the centre; for when any object was viewed at the distance of about five yards, the point not seen was about ten inches distant from the point actually looked at. On this occasion the affection, after having lasted with little alteration for about twenty minutes, was removed suddenly and entirely by the excitement of agreeable news respecting the safe arrival of a friend from a very hazardous enterprise."

We are not informed whether Dr. W. ever had any subsequent attacks of hemiopia, but he died about four years after this account was written, and it is stated that the *right optic thalamus* was of an unusually large size, and that on making a section of it, with the exception of a layer of medullary substance on its upper part, little or no vestige of its natural substance was perceptible. It had been converted into a tumor as large as a middle-sized hen's egg, of a grayish color towards the circumference, and harder than the brain itself, samewhat of a carious consistence, but in the centre of a brown color, soft, and in a half-dissolved state. This diseased structure was not confined to the thalamus, but extended to the neighboring portion of the corpus striatum. The right optic nerve, where it passes on the outside of the thalamus, was of a brown color, more expanded, and softer than natural. (See *Loc. Cit.*, p. 293.) Whether any connection existed between this pathological condition of the brain and the previous affection of the sight, cannot be determined with any certainty, although it is certain that "morbid alterations in the substance of the brain sometimes produce periodic diseases; and that certain additional causes of excitement operating upon an unsound brain will cause one or other of the functions of that organ to be for a time impeded, till the new cause ceases to operate, when the individual immediately returns to his former state of apparent health."

Dr. Wollaston has related, in connection with his own case, two other instances of the affection in persons of his acquaintance, which are perhaps worth quoting. In one, a gentleman, after suffering severe pain in his head for some days, about the left temple, and towards the back of the left eye, his vision became considerably impaired, attended with other symptoms, indicating a slight compression on the brain. Dr. W. saw him at the end of three or four weeks, and found him laboring under hemiopia, which became permanent. In this case the blindness was in reference to objects situated to the right of the centre of view. "Fortunately," says Dr. W., "the field of his vision is sufficient for writing perfectly. He sees what he writes, and the pen with which he writes, but not the hand that moves the pen. This affection is the same in both eyes, and consists in an insensibility of the retina on the left side of each eye. *It seems most probable that some effusion took place at the time of the original pain on that side of the head*, and has left a permanent compression on the left thalamus.* This partial blindness has now lasted so long without sensible amendment as to make it very doubtful when my friend may recover the complete perception of objects on that side of him.

In another case, related by Dr. W., a person had been habitually subject to the affection for sixteen or seventeen years, *whenever his stomach was in any considerable degree deranged.* Here the blindness was invariably to the *right* of the centre of vision, affecting both eyes alike, and lasting about a quarter of an hour after eating, when laboring under indigestion, and then subsiding without leaving any permanent imperfection of sight. The pathology of this affection, as suggested by Wollaston, is highly rational and ingenious, if not wholly sound in detail. He assumes that, as the corresponding points of the two eyes sympathize in disease, their sympathy must arise from structure, and not from a "mere habit of feeling together;" that two corresponding points must be supplied with a pair of filaments from the same nerve, and the seat of a disease in which similar parts of both eyes are affected must be considered as situated at a distance from the eyes, at some place in the course of the nerves where these filaments are still united. Hence, he inferred that the cord, which is called *optic nerve*, must be regarded as consisting of two portions, one of which comes from the right, and the other from the left thalamus: decussation thus taking place only between the adjacent halves of the two nerves: that portion proceeding from the right thalamus to the right side of the right eye, passing to its destination without interference; and in a similar manner the left thalamus supplying the left side of the left eye with one part of its fibres, while the remaining halves of both nerves, in passing over to the eyes of the opposite sides, intersect each other, either with or without intermixture of their fibres. It follows that an injury to the *left* thalamus would occasion blindness to all objects situated to our *right*, owing to insensibility of the left half of the retina of both eyes, and *vice versâ*. But how is it, when, as in the case I have given, the *upper* or *lower half* of the field of vision is obscured, causing horizontal hemiopia? Is there any evidence that the two portions, of which each optic nerve may be regarded as consisting, remain distinct after they form the retina? Do not pathological facts, and anatomical and physiological experiments, show that diseases and injuries affecting one side of the brain produce amaurosis only in the opposite eye, instead of hemiopia in both eyes? Mackenzie has called attention to the fact that, as the optic nerves pass through the sclerotica and choroid, considerably nearer the middle line of the body than the centre of the globe of each eye, the two optic axes, which, if any two points deserve to be considered as such, are surely corresponding points, will not be formed by filaments from the same nerve, but from opposite nerves; and he thinks it more probable that the two portions, of which each optic nerve consists, mingle in the fibres, and then expand into the retina, so that the membrane in each eye should be regarded as a plexus, every point of which contains fibres derived from each side of the brain.

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* Dr. Wallaston was under the impression that the optic nerves took their rise from the *thalami nervorum opticorum;* whereas it is now well known that they have their origin in the *corpora quadrigemina*, the optic lobes, tubercles, or ganglia.

The best and most recent anatomical authorities represent the optic nerves as decussating with each other in such a manner as to form a connection between the two opposite sides, as well as between each tubercle and retina of the same side. This is beautifully illustrated by a plate in Dalton's Physiology, where from each optic tubercle three different bundles or tracts of nervous fibres are seen given off; one set passing across transversely at the point of decussation, and turning backwards, terminates in the tubercle of the opposite side; another set, crossing diagonally, continues onward to the opposite eyeball; while a third passes directly forward to the eyeball of the same side; a fourth set of fibres, still, passes across, in point of the decussation, from the retina of one side to that of the opposite side. By this arrangement, then, we have the two retinæ, as well as the two optic tubercles, connected with each other by commissural fibres; while each tubercle is, at the same time, connected both with its own retina and with that of the opposite side. It is doubtless owing to these connections, and this arrangement, that when, in the human subject, the eyes are directed in their proper axes, the two retinæ, as well as the two optic tubercles, act as a single organ, and that vision is single, though there are images upon the retinæ: double vision only occurring when the eyeballs are turned out of their proper direction, so that the parallelism of their axes is lost, and the image no longer falls on corresponding parts of the two retinæ; or in other words, the fibres which proceed from the optic ganglia to the retinæ, constituting the proper optic nerves, being composed of an external and an internal tract—the *external* on each side pass directly onwards to the eye of that *side*, whilst the *internal* crosses over to the eye of the *opposite* side; the distribution of the two sets of fibres in the retina of each eye respectively being such, that the fibres from either optic ganglion will be distributed to its own *side of both eyes*—the right optic ganglion being thus exclusively connected with the outer part of the retina of the right eye, and with the inner part of the retina of the left eye, and the left optic ganglion being, in like manner, connected exclusively with the outer side of the left retina, and with the inner side of the right. Of course, as either side of the eye receives the images of objects which are on the other side of its axis, it follows that in the human subject, as well as some of the lower animals, each ganglion receives the sensations of objects situated on the opposite sides of the body. It has been suggested that the purpose of this decussation may be, to bring the visual impressions, which are so important in directing the movements of the body, into proper harmony with the motor apparatus; so that, the decussation of the motor fibres in the pyramids being accompanied by a decussation of the optic nerves, the same effect is produced as if neither decussated, as is the case with invertebrated animals in general.* In fishes, for example, as is well known, the optic nerves cross each other at the base of the brain, without any intermixture of their fibres; that from the right optic tubercle passing to the left eye, and that from the left optic tubercle passing to the right eye; the two nervous cords being totally distinct from each other throughout their entire length, being only connected at the point of crossing, by intervening areolar tissue. Of course, impressions made on the right eye must be perceived on the left side of the brain, while those which enter the left eye are conveyed to the right side of the brain. In birds, also, although the optic nerves are here united, and apparently soldered together at their point of crossing, yet the decussation of their fibres is nevertheless complete; the nervous filaments coming from the left side passing altogether over to the right, and those coming from the right side passing over to the left. Accordingly, if one of the optic tubercles be destroyed in a bird, complete blindness is at once produced in the eye of the opposite side; but vision remains unimpaired in the eye of the same side with the injury. The true explanation of the phenomena of hemiopia must, then, be found in the anatomical arrangement of the fibres entering into the structure of the optic nerves. Mackenzie very truly states, that if a tumor or excrescence were to press on the optic nerves immediately anteriorly to their union, the effect would be, according to the hypothesis of semi-decussation, to paralyze the inner half only of each retina. If, however, pressure were made on that portion of either optic tubercle whence those fibres originate which pass across transversely at the point of decussation, and turning backwards terminate in the tubercle of the opposite side; or if the effusion be located at that point whence the fibres originate, which, crossing diagonally, pass onward to the opposite eyeball; or at that part whence the fibres proceed directly forward to the eyeball of the same side, without any decussation whatever; or, as in the case already supposed, where pressure is made on those fibres which pass directly across in front of the decussation, from the retina of one eye to that of the opposite side, causing in this case paralysis of the inner half only of each retina; in each of the above pathological conditions supposed the phenomena will be varied according to the precise point on which the pressure is made. It would seem that the same effects would follow whichever tubercle, the right or left, was the seat of the pressure; but whether the right or left side of the retina, its upper or its lower portion, be paralyzed, must depend, of course, on the particular portion of the optic tubercle on which the pressure is exerted, or which becomes the seat of disease. When the hemiopia is seated in one eye only, we infer that that portion of the tubercle is affected, or the seat of pressure, whence those nervous fibres originate, which do not decussate, but pass directly forward to the eyeball of the same side. We thus, I think, have an anatomical explanation of the phenomena of hemiopia, which is entirely rational, and consistent with all that is yet known of cerebral pathology. In the case I have detailed it is undoubtedly very remarkable that the slight cerebral excitement, manifested by a temporary blush on the cheeks, should have resulted in a partial horizontal blindness of one eye, and that it should have continued unchanged for more than two years: showing either that absorption of the effused blood has not taken place, or, if it has, that the function of a portion of the nervous fibres has been lost by disuse, or disorganization, the result of long continued pressure: and those cases of functional or sympathetic hemiopia caused by indigestion, and lasting but a short time, are equally curious and remarkable. In these cases, so far as we have observed, the affection involves both eyes, but where it is owing to a permanent organic cause, as a clot, or pressure from effusion, it may be confined to one eye. The organic cause may be seated either, first, in the *retina itself*, which is liable to inflammation and congestion and their usual results, its functions being subject also to a partial or complete extinction, without itself evincing any change of structure, its sensibility alone being impaired or abolished; or second, in the *optic ganglia*, whence the optic nerves originate; or third, in the *optic nerves* themselves, in some part of their course, from the anterior part of the quadrigeminal bodies, along the thalami and the tubera cinera, to the retinal expansion. The functional derangement of vision from worms in indigestion, etc., may be accounted for, from the connection of the retina with the par vagum, sympathetic, and other nerves. For example, branches from the great sympathetic may be traced upwards, from the first cervical ganglion, to the ganglion lodged in the cavernous sinus; whence branches proceed and communicate with the third, the first division of the fifth and sixth pairs of nerves; while branches pass from the cavernous ganglion directly to the lenticular ganglion; besides, as the internal carotid artery passes into the cranium, it is surrounded by the sympathetic nerves, which accompany all its ramifications, including the ophthalmic artery, and its branches to the choroid, iris, and retina; branches also of nerves proceed from the lenticular ganglion to the iris, giving off minute twigs in their course to the retina. Morbid states, then, of these nerves, or irritation of their expanded extremities on the gastro-intestinal membrane, may be reflected upon the optic nerves, or the retina, or iris, and derangement of vision follows.

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* Carpenter has remarked (*Princ. of Hum. Phys.*, p. 717) that the singleness of the impression resulting from the formation of two pictures upon our retinæ is not attributable to the anatomical arrangements above pointed out; but that their combination is a *mental process*, and "the fusion of two *dissimilar* pictures is necessary to enable us to exercise one of the highest attributes of the visual sense, the perception of *projection*." If this be so, why is *perfect vision* possible with one eye; and why, when, by the pressure of the finger, or otherwise, we compel the image to fall in one of the eyes upon another, and, therefore, not symmetrical point, the object at once becomes double? The fact is, that each point of the outer portion of the retina of the right eye has its point of symmetry in an inner portion of the left, and when from any object rays fall on those symmetrical points that object will be seen single; if not, double. This exchange of symmetry, of course, concerns only the *lateral divisions*, for the upper portion of one eye corresponds with the upper portion of the other, and the lower with the lower.

After what has been stated it is unnecessary to speak of the predisposing or exciting causes of hemiopia, whether functional or organic, as they are sufficiently obvious. Nor need the principles of treatment be dwelt upon, as they are equally evident.—*Amer. Med. Times.*

PEEKSKILL, 1862.

New York Pathological Society—Influence of Chronic Pleurisy on the development of Phthisis; Pneumo-hydro-thorax; Pericarditis.

Dr. Austin Flint presented a specimen of a heart, and remarked upon it as follows:—The patient from whom the specimen was removed I saw for the first time in Bellevue Hospital, the early part of September last. He gave then this history:—He had had cough, with some expectoration, for ten months, and during this time had had one or more attacks of hemoptysis. He, however, continued his work as a laborer, and while engaged in rolling a barrel, some three or four weeks before his entrance, he felt suddenly an acute pain in the left side, as if something had given way. His pain continued; there was dyspnœa on attempting to exercise, and he took to his bed for three days, then arose, and was able, with some difficulty in his breathing, to get about. When I saw him in September, he did not present a particularly morbid aspect, and was able to walk about with much difficulty. The left side of the chest was found to be dilated, and comparatively motionless on respiration, giving at its superior portion some tympanitic resonance, with flatness at the base. The heart was crowded to the right side, and succussion could be easily produced, making it evident that pneumo-hydro-thorax existed. On resuming my attendance, Dec. 1, not having seen the patient during October and November, I found him up, and able to take considerable exercise without much inconvenience. The left side of the chest was, however, still more dilated, yielding absolute flatness on percussion, with complete silence of all auscultatory signs. He remained in this condition for some time, but after a while the fluid began to accumulate, causing great distress in breathing. He was then very anxious to have the chest opened, but I objected to the operation, thinking that perhaps the removal of the liquid might lead to perforation of the lung, and renewal of the pleurisy. However, his sufferings increasing upon him so rapidly as to render his life in danger from suffocation, I consented to have the fluid drawn off. This was done by Dr. Sayre, in presence of the class. A free incision was made at the lateral and lower portion of the chest, giving exit to a large quantity of turbid liquid, which had a slightly fetid odor. The patient was very much relieved thereby, and for some time afterwards expressed himself as feeling very comfortable. On examination, however, the usual signs of perforation of the left lung were very evident; there being present amphoric voice, amphoric respiration, metallic tinkling, and tympanitic resonance. The opening, contrary to our intentions, closed, but soon after opened again, when sufficient fluid had accumulated. A constant discharge of fluid, similar in character to that already described, was kept up for two or three weeks, at the end of which time death took place by exhaustion.

I was not present at the autopsy, but perforation of the lung was shown to exist by inflation through the trachea with a bellows; air freely bubbled up through the liquid, in the chest. The left lung was very much compressed, and the right lung presented some emphysematous lobules at its upper portion, and also some evidences of tuberculous deposit.

It was ascertained that the patient had had pericarditis. There was universal adhesion of the pericardial surface, though not very firm, except at one point, where there was quite an organized band. On the side where pneumo-hydro-thorax existed, at the summit of the lung, were a few old, small characteristic tuberculous excavations. In removing the lung a portion of the tissue of the organ in this situation was so fast adhered to the chest that it was left behind. Throughout all the other portions of the lung, there were no evidences of tubercle.

The points of interest in the case I suppose to be these:—In the first place, the occurrence of pneumo-hydro-thorax with pericarditis in a patient, who after a short time was able to take exercise without suffering. I think this is rare, although I have met with two or three cases somewhat similar. Another point in the case is the evident arrest of the tuberculous disease. There had evidently been, for some time before the death of the patient, and probably during the time he was affected with pneumo-hydro-thorax, no fresh deposit of tubercle. The tubercle that had been deposited at the apex had undergone its changes in the formation of cavities when the disease had undergone arrest. That fact is interesting to me in connection with the impressions I have received, as the result of clinical observations, that the occurrence of chronic pleurisy in the course of tuberculous disease leads to the retardation of the latter affection.

Dr. Clark remarked, with reference to the last statement of Dr. Flint, that some fifteen or twenty years ago it was proposed to puncture the chest in cases of tuberculous disease of the lungs, and take the consequences in the hope of a cure by compression. He did not think that the treatment gained currency, although the practice was no doubt founded upon the same general observations as referred to by Dr. Flint. Dr. Clark had frequently noticed that the development of tuberculosis was retarded by compression of the lung.

VEGETATION ON MITRAL VALVE, HYPERTROPHY OF HEART, ETC.

Dr. Flint presented next a heart, taken from a female, æt. 35, who recently died in Bellevue Hospital. She entered the Institution on the 10th of December, had had rheumatism nine years before, had suffered many years from want of breath on exercise, and had finally been affected with general dropsy a few weeks before her admission. When I saw this patient, continued Dr. F., she had anasarca with liquid effusion in the cavities, was suffering with dyspnœa, presented lividity of the prolabia and face. On examning the chest there was an extremelyloud systolic murmur heard with its maximum of intensity at the apex, and propagated to the left as far as the spinal column, and even to the right of it. This was the only murmer that could be discovered. The heart was evidently somewhat enlarged, the apex beating in the sixth intercostal space on a vertical line with the nipple. The aortic first sound was feeble, the aortic second being quite intense. This patient failed rapidly, the dyspnœa became more and more urgent, the anasarca more extreme, and she died with that slow lingering death from apnœa. The urine, which was examined while the patient was under my care, presented no evidences of albumen, although it was said to have contained it at a previous time.

The heart when removed weighed twelve and a half ounces. The right ventricle is dilated and hypertrophied, the walls being three-eights of an inch in thickness. Both the auricles are largely dilated. The walls of the left ventricle are not increased in thickness, and its cavity is not much, if any, dilated. This condition is somewhat unusual with disease of the heart, inducing general dropsy and death. There was free regurgitation through the mitral orifice, and the enlargement of the other portions of the heart, viz : the two auricles and the right ventricle, is perfectly consistent with that condition of things. The right cavities were filled simply with dark coagula, a fact which shows that the mere accumulation of blood in these cavities, the cause of death being paralysis, does not necessarily lead to the formation of ante-mortem clots. These latter in all probability depend as much upon the condition of the blood at the time as its mere stagnation.

The interesting point connected with this specimen is, not the contraction of the mitral orifice, which is common enough, but the presence of two vegetations of considerable size, one as large as a bean, the other somewhat smaller. The larger one is attached to the papillary muscle of the inferior curtain by what appears to be a small pedicle, which is a fractured extremity of one of the tendinous cords. The vegetation is produced, as I suppose, by the accretion of fibrine upon it. The other concretion is upon another tendinous cord which has not been fractured. These vegetations were so situated as to be pushed backwards and forwards by the direct and regurgitative currents, and being thus moved were very liable to be detached, and to have produced an embolus. It is easy to see if the vegetation had been found plugging up any of the arteries after death that the place of its original development could have been easily determined—especially if a portion of the tendinous cord were carried with it.

Dr. Clark asked if any of the tendinous cords were ulcerated, as it was rare that rupture occurred without such a pathological process pre-existing.

Dr. Flint had found no evidences of ulceration of the parts alluded to.

BRIGHT'S DISEASE SUCCEEDING DIABETES.

Dr. Alonzo Clark next exhibited a specimen of Bright's disease, and recited the following history of the case :—

A child ten years of age, was attacked with pneumonia a little more than a year ago. The disease ran its usual course, and the recovery was apparently complete. Two months after this it was noticed that the quantity of urine passed was very much greater than usual. The family physician, Dr. Linsley, had his attention called to this point, and very soon after asked me to see the girl with him. We examined her, and found that the quantity of urine passed during the day amounted to a gallon. Its specific gravity was 1036, and the quantity of sugar which it contained was very considerable; in other words, it was a case of diabetes. It went on as diabetes for several months, the quantity of water being diminished very much, and the quantity of sugar in it decreased while she was taking the alkalies pretty freely; and subsequently to that Champlin's cakes were recommended, this being while she was in the country during the summer. On the return to town in the autumn the mother had an objection to restraining the child to diet, and thinking it was hardly worth while to administer medicine, as it was an incurable disease, very little medicine was given. The physician at this time saw the child but little. During the latter part of its life she was allowed to eat cakes, candy, indeed almost everything. She retained her flesh very well. About a fortnight before her death it was noticed that she had a fever, and that the quantity of urine was diminished, and its color changed. I suppose that it had lost the faint straw color that diabetic urine usually has. The mother stated that it was less watery, and that it bore a bead a long time after it had been passed. On a Saturday night the mother noticed that this fever was more intense than it had been at any time previously, the child being very restless. Dr. Linsley early in the morning following found the pulse 140, with a great deal of restlessness, and in the course of the day invited me to see the girl; an interval of eight or nine months had then elapsed since my last visit. We found the pulse still up to the high figure referred to, and the face, which was a few days before rosy, was then pale, the nervous restlessness had not abated, and she had severe pain in the left side and chest, giving rise to the suspicion of pleurisy, which, however, did not exist. There was also a great deal of pain in the stomach, a little vomiting and disposition to stupor, with a contracted condition of the pupils. The thought struck us that there must have been some change in the phase of the principal disease. There was no pneumonia present, though there was discovered some dulness at the base of the left lung with crepitation. A small amount of œdema about the feet and legs was also noticeable. At our next visit during the afternoon of Sunday, the crepitation and dulness had all gone, yet pain still remained. The same mental condition continued, though there was less moaning. The respiration had become very remarkably embarrassed by laryngeal spasm. In the meantime I obtained the urine, which had become about one third less than it had been during the diabetic stage of the disease. It was found in addition to the sugar it contained, heavily charged with albumen, granular casts being also in abundance. The specific gravity was 1020. Death occurred on Monday night, having been comatose only about three hours.

A post-mortem examination was granted by the parents, and all the organs of the body liable to be in any manner connected with the disease were inspected, with the exception of the brain and spinal cord. The kidneys were about the size of those organs in the adult, and were of a pale hue. Microscopical examination proved the existence of fatty degeneration; none of the uriniferous tubes contained healthy epithelium, and most of the cells were loaded with fat. The intertubular tissue was in a state of granular and fatty degeneration; in a word, Bright's kidney existed, though not far advanced.

We were interested in the examination of the other organs. Not a tuberculous grain could be found in one lung, and none could be felt in the other. The post-mortem examination also showed that the dulness and crepitation that were noticed at the base of the left lung at the first visit on Sunday had left no mark; no pneumonia; no pleurisy; no abscess. The pain was doubtless due to a hyperæsthesia over the whole chest.

The liver we examined, and I reserved a small piece of it for microscopic inspection. There were two bands upon the surface, which gave unmistakable signs of fatty degeneration, but taking a portion which exhibited no particular marks, and examining it microscopically, I found it in a condition very similar to that described in the kidney. The cells were almost all of them fatty, and there was a certain amount of granular exudation in the tissues; whether this condition belonged to the diabetes or not I am unable to say. The liver was large for a child of her age.

The heart was about natural in size, and I was interested to know in connection with this disposition to fatty disease in the kidneys and liver that there was some atheroma in the arteries, and that in the mitral valves were two spots of considerable size in which the atheromatous deposit was quite marked. These are the prominent features in a case which has interested me as the first one in which I have known of diabetes being converted into, or replaced by Bright's disease.

I have no doubt that the child died of uræmia, but there was still sugar in the urine and the quantity of that secretion was large.

Dr. Bibbins remarked that, being a friend to the family he had seen the child but a few days before death, and was much surprised, considering the beautiful color of the cheek, to learn that it had Bright's disease.

VALUE OF BRONZE SKIN IN DISEASE OF SUPRA-RENAL CAPSULES.

Dr. Clark presented a pair of kidneys, with supra-renal capsules attached, which had been sent him by Dr. Hogan of the New York Hospital. He had no detailed account of the case to give, it was sufficient to refer to a single point in that connection: A person was admitted into the New York Hospital with grave symptoms and seen by Drs. Bulkley and Cock, was, on account of the bronzed discoloration of the skin, pronounced to have the mark indicated by Dr. Addison as attending disease of the supra-renal capsules. These organs, on post-mortem examination, were found healthy. This was among the many instances of exception to the rule laid down by Addison.

Dr. Flint had met with a case in the New Orleans Charity Hospital, of marked bronzing of the whole cutaneous surface associated with idiopathic anemia. The supra renal capsules, however, were found after death perfectly healthy.

SCROFULOUS DISEASE OF THE EPIDIDYMIS.

Dr. Finnell exhibited a pair of testicles removed from a shoemaker, sixty-two years of age. About two years ago, when first seen by Dr. Finnell, he complained of pain and distress in both testicles to that degree as to prevent him from following his vocation. The pain was for the most part in the situation of each epididymis, and would not unfrequently shoot up the cord and occasion a good deal of distress in the lumbar region. On examination the testicles proved to be very little increased in size, but each epididymis presented a firm cartilaginous feel. Small doses of iod. pot. were prescribed, with an occasioal anodyne, and relief from pain was afforded for a few months, when a small sinus formed on one testicle, to be shortly after followed by one on the opposite organ. Both discharged a small quantity of ill conditioned pus. Becoming much annoyed by the pain and the discharge he desired relief by castration, and for the purpose of having the operation performed entered St. Vincent's Hospital. A consultation was held, and it was deemed unadvisable to interfere with the knife but belladonna was prescribed internally and locally. His condition improved, and when he left the institution one of the sinuses had healed. and the diseased parts did not seem to have enlarged. During his stay, however, he was subject to frequent and imperfect micturition. No stricture of the urethra was discovered. He shortly after returned with an attack of acute pneumonia, of which he died.

On post-mortem examination both testicles were found healthy, but throughout the whole extent of each epididymis tuberculous matter was deposited ; and in one of the organs a small cavity was found.—*American Medical Times.*

Some Remarks on Neuroma, with a brief Account of Three Cases of Anomalous Cutaneous Tumors in One Family. By ALFRED HITCHCOCK, M.D., of Fitchburg, Mass.

The term Neuroma, according to Dr. Smith, was first introduced by M. Odier, of Geneva, in 1803, and has since become established in medical nomenclature to designate a *tumor connected with a nerve.* The ancients described the disease somewhat obscurely under the names of *ganglions, nodes,* and other less specific terms. Some modern writers have either confounded it, or made it identical with *painful subcutaneous tubercle.* Continental pathologists have, in modern times, carefully studied the disease, and the results of their observations are condensed in the valuable work of Dr. Robert W. Smith, of Dublin, which was published about ten years ago. To that work I am indebted for many of the facts pertaining to the disease contained in this paper.

Neuromatous tumors are of Spontaneous origin, the consequence of morbid process, or the result of wounds or injuries. If they are idiopathic, and but one tumor exists, it is usually painful; but if many tumours exist, they are usually free from pain. The traumatic varieties of neuroma, whether single or many, are usually very painful. The tumors in the constitutional variety, which is to be considered in this paper, are usually oblong in shape, sometimes globular, and slightly pedunculated, and may vary in size from that of a millet-seed to that of an ostrich egg. They more usually exist upon the spinal nerves, but occasionally in the ganglionic system. The writer witnessed a dissection of the latter class, at La Charite, Paris, in 1852. In this case there was a multitude of tumors on the sympathetic nerve, from the size of a pea to that of an English walnut. The spinal nerves in the pelvis were also involved in the disease. The cutaneous nerves, I think, were entirely free from disease. A published report of this interesting case has not been found.

In general, the tumors are *solid*, with an *elastic feel*, and sometimes are said to be composed of a cyst filled with fluid. They are of very slow growth, and are slightly movable, especially laterally. Those formed on minute cutaneous nerves will disappear in the areolar tissue by firm pressure. The skin is not discolored over them, neither does it adhere to them, unless friction, or pressure, or other cause, has interfered with their natural development. Inflammation, suppuration, or absorption, seldom occurs in them. The true neuroma is generally regarded by pathologists as a disease of a *benign character*. Some, however, regard neuromatous tumors as cancerous; and it is unquestionably true that malignant tumors are occasionally found involving trunks of nerves. Several continental pathologists maintain that neuroma is a malignant disease; while Dr. Smith, in his valuable memoir, presents very strong reasons for its benign character. This question can hardly be said yet to be finally settled—certainly not more satisfactorily settled than with a pretty large variety of tumours, that are developed in other tissues of the body. The truth on this subject may yet be found in a solution of the question whether or not benign tumors ever degenerate into malignant. Mr. Abernethy, as is well known, favored the doctrine of such transformation. Professors Gluge, of Germany, and Syme, of Edinburgh, at present maintain the doctrine of the malignant degeneration of certain recurrent tumors. Mr. Paget also coincides in this view, and very aptly remarks that "recurring fibroid tumors assume more and more malignant features the oftener they recur." And he also adds: "Whatever be the truth concerning the supposed transformation of an innocent into a malignant, morbid growth. I think it can hardly be doubted that, in the case of some recurring growths, the successively later growths acquire more and more of the character of thoroughly malignant disease." He also expresses (p. 394) considerable doubt whether the so-called painful subcutaneous tubercle "is identical with the fibro-cellular neuroma or not." According to Rokitansky (vol. iii. p. 347), neuroma should be ranked with the fibroid structures. He describes it as non-malignant, and says, "that with the exception of cancer, neuroma is the most frequent adventitious growth which occurs in the peripheral nervous system. In quantity, they may exist from one to countless numbers. In the latter case it constitutes a very *general disease*, as to the cause of which we are *still in the dark*. The size of the tumors bears no direct proportion to the thickness of the nerve on which it is formed; for, in point of fact, it has been noticed that those tumors which are situated on small branches, are relatively much larger than those which occupy the thick trunk of a nerve." He also says (vol. i. p. 213), "Medullary carcinoma has some sort of affinity to the medulla of the nervous system; this is evinced by the fact that in the eyeball this disease always springs from the retina or optic nerve, and nerves speedily perish in the range of medullary tumors."

Several writers have observed mental imbecility, idiocy, or cretinism, in persons afflicted with neuroma as a general disease. In the three cases of anomalous cutaneous tumors, in the Clark family, described in this paper, although a tolerable degree of intelligence existed, and a desire to act strictly conscientious, yet there is a very obvious imbecility and vacillation of the mental and moral powers. The expression of their countenances strongly corroborates this opinion, and justly conveys the impression that they are persons of weak intellect.

CASE 1, *May 4th*, 1860. Mrs. Elizabeth Clark, wife of Peter Clark, deceased, was the daughter of Samuel and Abigail Brown, of Worcester, Massachusetts, where she was born, Oct. 3, 1779. Her parents "kept tavern," and in June preceding her birth, the weather being very hot, according to family tradition, her mother "melted herself." From this time she was sick, and kept her bed till the birth of Elizabeth. She was a tolerably healthy child, was occasionally troubled with a "rash," till thirty years of age, when the tumors in the skin began to appear. They have gradually increased in number, and some of them very slowly in size; have never been painful, except from injury, and they have always retained the color of the skin. In shape they are variously *oval*, *globular*, slightly *pedunculated*, or *merely* papular, oval *disks*. Some are hard like scirrhus, some have a firm, elastic feel, and some are soft, and readily disappear by pressure under the skin. None have the appearance of melanosis.

At this time the tumors cover the whole body—are most abundant on face, neck, thorax, and arms. In size they vary from that of a pin's head to that of a hickory-nut. They number many hundreds, too many, in fact, to think of counting them. The tumors in her case, as well as in the daughter and son, have multiplied pretty steadily with advancing age.

The writer has procured photographs of all these cases for preservation.

Mrs. Clark is now nearly 81 years of age, is tolerably well, and her usual mental power is quite unimpaired. She gives the foregoing facts concerning her own history, and also states that her parents were healthy, without tumors, or *cancers*, or eruptions of any kind; and that none existed among their relatives, or among her own brothers or sisters, there being ten children in the family.

Mrs. Clark had seven children. Several of them died early of acute diseases. Only two of the children, Samuel B. and Elizabeth D., exhibited the cutaneous tumors like the mother. Her husband died many years ago of acute disease. He had brothers and cousins who died of cancer.

CASE 2. In the case of the daughter, Elizabeth D. Clark, aged 54, the tumors began to appear at 10 years of age. One, near the clavicle, attained the size of a hen's egg, and was removed, when she was 21, by Dr. Torrey, of Windsor, Vermont. Another small tumor, on the lip, was removed, a few years ago, by the family physician, Dr. W. H. Bigelow, of Bolton. Neither of these tumors have ever returned, although she thinks the tumors in other parts of the body increased in number more rapidly after their removal.

CASE 3. Samuel B. Clark, aged 46; single; factory operative, Bolton, Mass. About the first of June, 1856, consulted me for a painful tumour of the right arm. He was thin in flesh, pale, seemed timid, dejected, and almost childish when conversed with about himself. The history of the tumor he related as follows: About twenty-two or twenty-three years ago, he discovered a small, movable tumor on the right arm, just above the internal condyle of the humerus. This increased very slowly for twenty years, and did not interfere with the motions of the arm; was not sensitive or painful, unless compressed, or the arm used violently, when numbness, or pricking sensations, or acute pain, would extend to the fingers. About two years ago, the tumor began to increase in size much more rapidly, and the pain and discomfort were correspondingly increased. For nearly a year past he has been unable to labor, in consequence of the size and painful character of the tumour. At present, the tumour measures 6½ inches in its long, by 3½ in the short diameter, and is nearly a perfect ovoid. The lower extremity seems pretty firmly fixed at the internal condyle of the humerus, and the long axis extends in the direction of the axilla. The whole tumour is solid, elastic, smooth, movable, especially laterally, and evidently without adhesion to integument or bone. The skin is of natural color and sensibility, while pretty firm manipulation of the tumor is productive of great pain, chiefly in the parts below supplied by the ulnar nerve. The tumor is regarded as encysted fibro plastic, requiring removal to escape the great pain and loss of use of the arm, caused by its rapidly increasing size and by the supposed *mechanical compression of the ulnar nerve.*

In this opinion Drs. Marshall, Wellman, and Cummings, of Fitchburg, concurred, and on the 16th of June, 1856, rendered valuable assistance in the operation for its removal. By a longitudinal incision the integuments were easily detached from the investing capsule of the tumor, and when carefully attempting to enucleate it, without injury to the ulnar nerve (which was expected to be found between the tumor and bone), it was discovered to be a tumor of *that nerve.* The ulnar nerve, in fact, appeared to be the axis of the spheroid, and at either pole was enlarged, the lower to three, and the upper to five lines in diameter; the capsule of the tumor was evidently composed of the neurilemma. The trunk of the nerve, from above, was spread out into a vast number of flattened fibres, partly dipping into the tumor, but chiefly running in curved lines, on its convex surface, like the network on a balloon, and subdividing till scarcely visible to the naked eye; and, at the lower part of the tumor, converging in more and more distinct lines to form the nervous trunk, where it passes over the groove of the internal condyle of the humerus. To save the nerve was found impossible, and it was accordingly divided, first above and afterwards below, and, there being no adhesions to the bone, the tumor was readily separated from its bed. Some of the muscles were displaced and atrophied, by mechanical pressure, but not involved in the disease. Only one artery required ligature; the tumor was not attached to the skin or bone. With the exception of a secondary hemorrhage, on the eleventh day, which was readily controlled by compression, the wound healed kindly, partly by adhesions, and partly by granulations, and with paralysis of the ulnar portion of the forearm, he returned to his home, in five weeks, calling himself "well."

It should be here stated that the tumors in the skin were observed at the time of the removal of the large tumor of the ulnar nerve. These cutaneous tumors were firmer and evidently more prominent than when he subsequently entered the hospital, in 1858, as described by the record.

The tumor weighed two pounds, avoirdupois; oval, smooth, solid, very elastic, and covered with an investing capsule, which could not be easily detached; the cut surfaces immediately presented a slightly convex appearance, and on firm compression several smaller convex disks appeared on the general convexity of the cut surface. The color was generally of a grayish, glistening white, in spots inclining to yellow, or a bluish, translucent white; appears succulent, and is partially friable in spots, yet is pretty firmly coherent by apparently fibrous or condensed areolar tissue. Dr. Wellman and myself examined the tumor microscopically, and failed to find evidence of its encephaloid character, but did find evidence of its fibro plastic structure. Sections of the tumor were sent immediately to different microscopists. A portion sent to my brother, Dr. Homer O. Hitchcock, House-Surgeon at Bellevue Hospital, was examined by himself, by Drs. Alonzo Clark and J. C. Dalton, Jr., of New York, who concurred in opinion that it was of the fibro-plastic character, and without cancer-cells.

The following extracts of letters, from their distinguished authors, express their several views of the specimens from this tumor which were sent for their examination.

Of a specimen sent in alcohol to Prof. E. R. Peaslee, then at Hanover, N. H., he writes as follows:—

JULY 9, 1856.

I would not like to pronounce unqualifiedly on the character of a tumor in the circumstances, since the action of the alcohol must somewhat change the minute structure. In the first place, I do not find any reason for believing the growth *encephaloid;* second, it lies in my own estimation between neuroma and a modification of the ordinary *fibrous tumor;* and as I fail to find any thing characteristic of the former, I should be obliged, from the present specimen, and in its present condition, to think it the latter, of which it seems to me to present the characters. I should, however, hesitate to give a decided opinion in the circumstances.

Of a specimen sent to Dr. J. B. S. Jackson, of Boston, the day after its removal, he writes as follows:

BOSTON, June 20th, 1856.

DR. HITCHCOCK—*Dear Sir:* I received your specimen in good condition, and it has been examined by several others as well as by myself. No one of us, I believe, agrees in calling it *neuroma;* my own opinion was decidedly against that view of the case, and having had an opportunity to examine Dr. Smith's specimens and his plates side by side when I was in Dublin, I came to the conclusion that a very considerable variety of structures were described under that name; and that it might be very easy to confound neuromatous with tumors that simply involved or pressed upon the nerves. The light-colored portion I thought resembled what has been described as the fibro-plastic, and the yellowish opaque I supposed to be the result of a secondary action, probably inflammatory. The appearances of "encephaloid" vary much in different cases and in different parts of the same mass.

The light-colored portion of this tumor I should say varied very much in its gross appearance from an average encephaloid; far more I think than Dr. Bigelow would make it, judging from his note, which, as you will see by the date, I have just received. I expected, therefore, that it would be found microscopically to possess the usual fibro-plastic appearances, and I am surprised to find that there is so much of the encephaloid character. In regard to the general character of the disease practically I considered it when

I first saw the specimen, and after reading your history of the case, *to be cancer,* though not the most common form. I had little or no doubt that it would return and sooner or later destroy the patient, and I presume that my friends here agree with that first impression. The pure fibro-plastic tumor often enough returns and is fatal; but this case seems to have been a step towards encephaloid.

Dr. Jackson placed the specimen in the hands of Dr. H. J. Bigelow, of Boston, who expressed the following opinion:

June 20, 1856.

Dear Sir: The tumor of which you sent me a portion of uniform structure, flat on section, tender and of a bluish translucent tint, although it resembles encephaloid in these respects, does not present the most frequent microscopic appearance of that disease; the cells having a tendency to excessive elongation, some consisting of an attenuated long nucleus, with at each end a long fibre; others elongated narrow bodies with parallel sides and blunt ends; others again merely ovoid and elongated nuclei, but nuclei and nucleoli all small. Yet these appearances correspond sufficiently with some other cases of undoubted cancer, and also with one of Paget's figures. I should consider also that the universal occurrence of these masses in the same patient was conclusive as respects cancer, if indeed they are not some also melanotic.

Dr. C. Ellis, of Boston, writes as follows to Dr. Jackson: "The tumor from the arm was examined by Dr. Shaw and myself. We both found round or oval granular nuclei, the nucleoli in which were comparatively small; also cells more or less elongated containing the same nuclei above described. Dr. Shaw was inclined to call the disease fibro-plastic. I do not deny that it might be so called, but would rather describe the appearance of the cells than give them a name."

The following is the record of the case at the Massachusetts General Hospital:

1858. Samuel B. Clark, aged 47; single; laborer; Bolton. Encephaloid tumor of arm. One year.

January 6. Family scrofulous, himself generally healthy, twenty-four years ago discovered a small movable bunch on right arm just above bend of elbow. This increased very slowly, at times seeming to remain stationary and not interfering with the motions of the arm. At the end of twenty years it began to rapidly increase, extending over to back of arm, retaining, however, its mobility, and not causing him any pain except after severe exertion, when the pain was of a dull aching character; never lancinating. It was removed a year ago last June by a surgeon of Fitchburg. It weighed two pounds; the wounds healed kindly. Last February the disease began to return, commencing, as previously, in the form of a small lump about two inches above internal condyle of humerus; growing rapidly, extending in either direction so as to completely encircle the arm, and becoming the seat of severe lancinating pains; especially distressing at night. The growth is developed principally to the inside of arm, where a large spherical mass, hard and immovable, juts out; is continued round to outside of arm, where, however, the convexity is less marked, and extends upwards; all the while diminishing in circumference till the hardness disappears about five inches above elbow. In the axilla a firm hard cord can be traced downwards into the mass where it disappears. Pressure along this is productive of great pain. The circumference of the arm over the greatest convexity of the tumor is twenty inches. The integument covering the whole mass is reddened and adherent, large veins anastomose over its surface, one of which was ruptured about a week ago and now bleeds freely whenever compression is removed. Right forearm is cold; the muscles do not appear to be wasted. Hand droops; fingers are permanently contracted. Has been unable to use his hand for a month. Pulsation in radical artery feeble. A curious eruption of the skin also strikes the eye; most pronounced upon the back; sparse upon the chest and belly; looking like small pediculated tumors of the skin; wrinkled, flaccid and flabby, very soft, receding on the slightest pressure through the skin into the cellular tissue. These are the largest, a dozen or more in number of the size of a large green pea; but the earliest stage of this eruption is seen to be a minute papule sparsely disseminated over the trunk and on the forehead, and it is to be seen in intermediate stages. A few of the largest of these little tumors existed upon the amputated arm, and proved, on dissection, to lie in the cellular tissue, of a soft white material, though not easily torn, and to consist under the microscope of elongated nuclei, and cells identical with those found in the tumor.

Amputation at the shoulder-joint was performed by Dr. Bigelow with an upper flap by transfixion in the usual manner, January 9, 1858.

The tumor, on dissection, proved to lie beneath the muscles, being about eight inches in diameter, ovoid. The musculo-spiral nerve lay in a groove upon its surface enlarged but not adherent. The radical nerve was also detached by dissection from the surface of the tumor; but the ulnar nerve entered the tumor at its upper extremity and was immediately lost in its substance. Before disappearing it bulged like a sparrow's egg, this knob being encysted beneath the surface of the tumor, but readily pealing from it. Its point of emergence was entirely obscured by the adherent cicatricial and diseased tissue at the lower extremity of the tumor at the point of the old operation. The tumor was not adherent to the bone. Upon section it presented, on the whole, an encephaloid character, the centre seemingly more succulent, vascular, translucent, and mottled; the periphery more opaque, white, and lobulated with lymph, friable to the thumb without difficulty; the centre tougher. Microscopically the tumor consisted mostly of elongated nuclei, containing one or more nucleoli about one-fourth the width of a blood-corpuscle and from two to four times as long, often bifid at the extremities, the nucleoli rather small than large, some tendency to fibroid tissue.

Omitting the daily record till April 22d, 1858, we find "Less pain than at time of last record, shoulder still quite sensitive, discharged well."

From Dr. W. H. Bigelow, of Bolton, I received the following terminal facts in Samuel B. Clark's case. He remained in the hospital till April 22, 1858, when he returned to Bolton, with the stump not healed but hard at one point. This rapidly increased in size and hardness, and finally became raw and bleeding. He wasted in flesh and died August 17, 1858. (A post-mortem examination was not made.)

Several important inquiries naturally arise from a review of these cases.

1st. Was Samuel B. Clark's tumor of the ulnar nerve a true neuroma?

2d. Is neuroma naturally *benign*, and does it sometimes degenerate into malignant disease?

3d. The small cutaneous tumors having been found by several observers clinically and microscopically identical with medullary cancer, how is it that such a crop of that disease has grown so inoffensively 30, 40, and 50 years on these three persons?

4th. Is it not possible or even probable that these tumors originate in minute cutaneous nerves, by reason of which their malignant tendency is modified or controlled, perhaps at the expense of intellect or some other manifestation of nerve power?

These inquiries open a field for research where the annals of clinical surgery and pathology afford but little information. With the hope of pursuing this inquiry further, I invoke the aid of the readers and contributors of this Journal to elucidate this rare and obscure disease.—*American Journal of Med. Sciences.*

Induction of Premature Labor. By C. D. Meigs, M.D., Emeritus Professor of Midwifery in Jefferson Medical College. In a Letter to the Editor of the American Journal of Medical Sciences.

Dear Sir: I am not rarely consulted by medical gentlemen at a distance on the subject of premature labor and on forced abortion supposed to be rendered necessary by an ascertained deformity of the pelvis. Having had two such letters to answer this week, I considered that it might comport with the purposes of your excellent journal to say in it what appears to me to be the most advisable method in such cases. If you should publish this note it might not only prove acceptable to some of your readers, but it would save my time, in the way of answering inquiries.

Dr. Karl Braun, of Vienna, proposed, a few years ago, to open the os uteri by means of what he called a "Colpeurynter," which is a small delicate bag or bladder composed of vulcanized rubber, to which is attached a syringe and a stop. This bladder, not bigger than a walnut, if introduced within the vagina, may be distended by means of the syringe with tepid water or air. It may be inflated or distended so as to become equal in size to a small fœtal head, and if the distension be gradually and very slowly effected it will not necessarily produce any distressing or painful sensation.

Now, as the uterine extremity of the vagina arises from the outer circumference of the cervix uteri, it is clear that such a distension as above supposed could not fail, after due time, to draw the walls of the cervical canal outwards, and so diminish the antagonism of the cervix and os uteri to that of the fundus and corpus uteri. This very condition of lessened resistance is all that is requisite in the case, because, as soon as the power of the fundus and body becomes preponderant, it will begin to force the ovum downwards, and at length, after dilating the cervix and os, expel it. I apprehend the method to be in all cases infallible; the condition being that the colpeurysis shall be properly effected.

To bring on a forced abortion in labor by the use of the stilette, or by injecting different medicinal articles or gases into the gravid womb, appears to me to be an encroachment, by medical people, upon those rules of art within whose sacred pale we may be held blameless, whereas we are not without blame when we transcend those barriers that are so clearly defined in our collegiate diplomas. Witness the instant death that recently occurred at Edinburgh, from injecting carbonic acid into the uterus, as related in your last number! But to gently remove the retaining power of the os and cervix by a moderate and reasonable colpeurysis, is really to do no violence to any tissue, the operation being merely to suspend an antagonistic force; thus rendering the method of colpeurysis the simplest and safest possible, and certainly unfailing in success.

Inasmuch as operations performed for the induction of premature labor, and of abortion, are not without risk to the patient; and as it is well known that there are wretches who are so abandoned as to desecrate the profession of medicine, and spurn their own honor in the low calling *teneros avellere fœtus*, I conclude that no regular and reputable member of the body will ever consent to institute such operations as this I propose, without the consent of a proper medical consultation: this is a matter of such great import to us all, that I consider it to be incumbent on the American Medical Association to take such order upon it as their wisdom may suggest. To lose a patient under any circumstances, is a source of grief to the practitioner; but to lose one subjected, without consultation, to the operation in question, can only be fitly denoted as a disaster. Our diplomas endow us with authority to practise within the rules of an art; and it ought to be enacted as a rule of practise not to do these things without consent of a consultation. Such a rule would probably restrain much looseness of conduct on the part of some of the brethren; and might go even so far as to improve their morals, as is the admitted tendency of all salutary laws. I trust that you, Mr. Editor, who are a leader in things practical and æsthetical in our calling, will readily agree with me that it is neither safe nor decent for any single physician to order and perform one of these operations. Such sentiments, if known to be held by your great and powerful press, would do more good, perhaps, in the way of purging our brotherhood from these defilements, than half a dozen convictions and sentencings by the law courts.

Though I have already drawn out this note to a greater length than I designed, I ought not to omit the injunction of deferring the operation until after the period during which the ovum is covered up completely within its capsule called the decidua. Now, it is known that the whole ovum escapes from its deciduous investment or capsule at the one hundred and fifth day, or thereabout. If one would force on an abortion before that date, the deciduous capsule, which consists of the tubular glandular mucous membrane of the womb, must inevitably be ruptured or wounded, which is equal to a wound of the womb itself; but after three and a half months the ovum, which is at that period wholly escaped from the decidua-capsule, may reasonably be expected by means of the colpeurysis to be expelled whole and unbroken, in which case the risk to the woman is much diminished, not only because the entire product of the conception is thus eliminated, but also because no needless and hazardous violence is done to the membrana decidua.

I am, my dear sir,
With the sincerest regard,
Your friend and servant,
CH. D. MEIGS.

Inversion of the Hairs of the Labia Pudenda. By C. D. MEIGS, M.D., Emeritus Professor of Midwifery in Jefferson Medical College. In a Letter to the Editor of the American Journal of Medical Sciences.

My Dear Sir: Since I saw you yesterday, I have found, at page ninety-five of my "Letters to the Class," fourth edition, the relation of a case of pruritus vulvæ closely resembling that of our patient, Mrs. ——, and which was the subject of our conference.

The late Dr. —— had for some time had charge of the young lady, aged about 20 years, and suffering greatly from continual pruritus and heat of the vulva. Finding himself baffled in his trials of cures, he at length asked leave to make a physical diagnosis; and you may infer as to the severity of the young lady's distress that could induce her to yield assent to so trying a demand.

The inspection of the parts did not, however, provide for the Doctor means of cure more efficient than the preceding ones; so that, the various washes and even the application of nitrate of silver having failed, he gave it over to me.

I was much surprised, on inquiry, to find the margins of each of the labia studded with long, straight, and stiff hairs, just like eyelashes, all of them directed inwards, and so, constantly teasing, irritating and vexing the mucous body of the interior, and producing a redness or florid tint of the membrane, with heat and the intolerable itching of which she so long had complained. I was struck with the analogy of the situation to that of the conjunctiva in those cases of conjunctivitis which you have often found to depend upon inversion of eyelashes or trichiasis. It was a case of real trichiasis, not before described, and probably not before noticed. I at least had not met with any such notice in the books.

I directed the offending hairs to be gradually eradicated by tweezers, which the lady's nurse accomplished after some days, and the patient was thus cured of an *incurable disorder.*

Now, my dear sir, our patient is in precisely a similar condition, both as to the distress and the cause of that distress; and I confidently expect that if she will accomplish the eradication of the offending lashes, "whose name is legion," she will find herself delivered from the annoyance.

You, who know as well as I do, how obstinate and how intractable are many of the cases of pruritus, will do, I think, a service to many distressed people, and shed a little beam of light on the path of many a bewildered colleague, if your widely known journal should assist to spread this little item of useful knowledge where my work has not been able to extend it.

I am, dear Doctor,
With the truest esteem,
Your obliged servant,
CH. D. MEIGS.

710 Walnut street, January 28, 1862.

Oxalate of Cerium in Epilepsy.

Dr. Ramskill has used oxalate of cerium lately at the Hospital for the Epileptic and Paralyzed. He says it has proved serviceable in some cases of epilepsy, having as an aura, or premonitory symptom of the attack, some commotion of the stomach or duodenum evidenced by a feeling of agitation at the epigastrium, accompanied by a sense of sinking, fainting, and disordered movement, but unconnected with palpitation. In three cases, which we shall give shortly, the epilepsy was cured. It has not proved useful in any degree in any other forms of epilepsy, where the premonitory symptoms had relation to the head, as vertigo, confusion, etc , nor to the heart, as palpitation, or feeling of cessation of the heart's action, nor, indeed, to any other variety except in the one mentioned, which seems, he believes, to have its origin in failure of action of the splanchnic ganglia. He thinks that the oxalate acts as a sedative and conserver of nervous force. The sedative action acting on the periphery of the pneumogastric, conveys this influence to the grand centre of excito-motory action, the medulla, and thus not only prevents an impending attack, but diminishes the chance of future fits by lessening morbid excito-motor sensibility. —*Med. Times and Gaz.*, Jan. 4, 1862.

Efficacy of a Combination of Cubebs and Copaiba in some Affections of the Neck of the Bladder and of the Prostatic Part of the Urethra.

Dr. Caudmont has employed cubebs and copaiba in different affections of the neck of the bladder and of the prostatic portion of the urethra, and the results have convinced him that these medicines exert a much more certain action over these parts than over the anterior portion of the urinary canal. In some cases, he administered the copaiba alone, in other cases the cubebs alone; but in general he combines these two drugs, because it appeared to him that the digestive organs were more tolerant of their administration in this form. The morbid conditions in which these medicines are indicated, may be referred to forms of neuralgia or inflammation. The neuralgic cases begin suddenly, without being preceded by any functional disturbance, and the symptoms are immediately very severe; there is frequent desire to make water, severe pain during that process, and especially at its conclusion, and darting pains along the inferior surface of the penis during the intervals of micturition. This neuralgic form occurs in persons who are subject to neuralgia in other parts of the body. The other class of cases presents an inflammatory character, and a few drops of blood are voided at the end of each act of micturition. The greater number of such cases may be referred to a blennorrhœal or rheumatic origin, and the urine deposits gravel, or contains a considerable quantity of mucus or muco-pus. In all these cases, whether neuralgic or inflammatory, the use of copaiba and cubebs is very successful, and entirely removes the pain in from twenty-four to forty-eight hours. Dr. Caudmont administers these medicines in the form of sugar-plums *(dragées)*, each containing forty centigrammes of the mixed cubebs and copaiba (a centigramme is .1543 of a troy grain), and fifteen, eighteen, or twenty-four of these are given every day, according to the intensity of the disease.—*Brit. and For. Med.-Chir. Rev.*, Jan. 1862, from *Bull. Gén. de Thérap.*, July, 1861.

Bibliographical Notices and Reviews.

A System of Surgery—Pathological, Diagnostic, Therapeutic and Operative. By Samuel D. Gross, Professor of Surgery in the Jefferson Medical College, Philadelphia, Member of the Imperial Royal Medical Society of Vienna, etc., etc. Illustrated by twelve hundred and twenty Engravings. Second edition: much enlarged and carefully revised. In two volumes. Philadelphia, Blanchard & Lea. 1862.

July 8th, 1859, the author wrote his preface to the first edition of this work. January 1st, 1862, to the second edition. Such facts would seem to indicate both the popularity of the work and the promptness of the author in responding to the public demand.

The object of the work is to furnish a systematic and comprehensive treatise on the science and practice of Surgery considered in the broadest sense; one that may serve the practitioner as a faithful and available guide in his daily routine of duty. Indeed, to embrace the whole domain of Surgery and allot to every subject its legitimate claim to notice in the great family of external diseases and accidents is the author's aim. The work is founded upon courses of lectures delivered during the last twenty years in the University of Louisville, and in the Jefferson Medical College, in the latter of which the author received his degree, in 1828. It may also be stated, in this connection, that the author has been a practitioner of Medicine and Surgery for a period of more than thirty years. The work may therefore be regarded as embodying a large amount of personal experience.

The edition before us, besides having every chapter revised, contains a large amount of new matter. The subject of Gunshot Wounds, just now of such absorbing interest on this Continent, has received more than ordinary attention.

We have no space for details. We will state, however, that the work is divided into Two Parts: *General Surgery* and *Special Surgery*.

Under the head of General Surgery there are nineteen chapters:

Chap. I. Irritation, Sympathy and Idiosyncrasy.

Chap. II. Congestion.

Chap. III. Inflammation.
Chap. IV. Terminations and Results of Inflammation.
Chap. V. Textural Changes.
Chap. VI. Congenital Malformations.
Chap. VII. Tumors, or Morbid Growths.
Chap. VIII. Scrofula.
Chap. IX. Wounds.
Chap. X. Effects of Injuries on Nervous System.
Chap. XI. Syphilis.
Chap. XII. General Diagnosis.
Chap. XIII. Minor Surgery.
Chap. XIV. Operative Surgery.
Chap. XV. Plastic Surgery.
Chap. XVI. Subcutaneous Surgery.
Chap. XVII. Amputation in General.
Chap. XVIII. Excision of Bones and Joints.
Chap. XIX. Anæsthetics, or the Means of Averting Pain.

PART II. *Special Surgery*, or *Diseases* and *Injuries* of *Particular Organs, Textures*, and *Regions*.

A work which professes the character of a systematic treatise must necessarily contain the labors, to a greater or less extent, of all who are, and have been, engaged in cultivating the department. No one individual, it may fairly be presumed, could rely entirely on his own resources even if all the diseases and all the accidents, which the work before us professes to discuss, had come under his notice. Moreover, there is scarcely a disease or an accident that any one man, however gifted, can say he has mastered. Our present knowledge, is made up of the labors of the dead of thirty centuries, and the little that the present generation has added.

Inflammation, that usually figures in the first chapter of treatises on Surgery, is as old as figurative language, and has received attention largely from all those aspiring to teach; and who is there now that thinks over what he knows of the process, even with the lights thrown about it lately by the microscope, without the sense of mortification from his own deficiencies. If practice were taken as a test of acquaintance with it, it might be doubted whether we now know as much as did the ancients.

A work then, such as the one before us, is rightly regarded, when taken as a *résumé* of the labors of the trust-worthy of our own and previous ages. The author has shown himself to be very competent to look through the labors of the past, as well as note the improvements of his own day.

The first chapter of the work before us takes up *Irritation*, Sympathy, and Idiosyncrasy. To have omitted these altogether would have been a small sacrifice, if judged by the knowledge we possess of them. Much of what has been written on such topics has necessarily been obscure. A reason for this is suggested by the author. He thinks they have been treated of unphilosophically. Well, perhaps they have. But has the philosophical method of the author made things transparent? For our own part, after reading him over on these knotty subjects—and by the by he has made a very good effort—we yet feel the scales over our eyes. The case is abandoned as hopeless, by the author's failure to complete the first part of the work of properly considering any subject, viz: *definition*. The question, for example, is asked: "What is Irritation? Is it an entity or a myth, a certain undefinable something which no one can see, but which every one may recognize by its effects?" The author says, "perhaps it is a disordered state of the *nerves*, unattended with inflammation. * * That it essentially belongs to the nervous, as inflammation does to the vascular system." Here are two assumptions, one predicated upon the other. It is assumed that inflammation pertains essentially to the vascular system, therefore irritation pertains to the nervous. Is the former true? Does blockading the Mississippi, or turning it out of its channel, imply original fault in the stream itself? When will authors cease diluting their works with speculations on such subjects? The generation that is to succeed us ought, for humanity's sake, to be spared a portion of the trouble we have had in getting rid of the rubbish of a former one.

The practical part of this work will be found up to the times. The latest improvements in the treatment of surgical diseases, and the new methods of operating, are fully, very fully, set forth.

In manner there is little to criticise. Although more terseness might have been acceptable, the work of getting at the meaning of the author is far from being a fatiguing process. In both matter and manner, therefore, we look upon this production as a very clever one in its line. It has been well received at home; and we may state in this connection, that a translation of it into the Dutch language is now in progress at *Nieuwediép*, in Holland, and will appear at an early day.

On Bandaging and other Operations of Minor Surgery. By F. W. SARGEANT, M.D., Member of the College of Physicians, Philadelphia; one of the Surgeons to Wills' Hospital, etc., etc. New edition. With an additional chapter on Military Surgery. By F. W. ATLEE, M.D., and one hundred and eighty seven Illustrations. Philadelphia: Blanchard & Lea. pp. 383.

This little manual appeared first in the year 1848. A *Second* edition was issued some seven years hence; and now we have the *Third* edition. Owing to the absence of the author in Europe, this has been prepared by F. W. Atlee, M.D.

The intention of the author has been to present to the younger surgeon and to the student information relative to the art of bandaging and other points of importance in Surgery. Such subjects are but slightly alluded to in systematic courses of lectures, or in the most of the published treatises on the science; yet the necessity of a familiar acquaintance with them will be readily acknowledged by every Surgeon of experience.

The materials for this volume, it will be noticed, have been collected from the most approved books; and to these we have added the extensive experience of the author in hospital and private practice.

The book is divided into five parts: The *first* embraces a description of implements; the *second* treats of the composition and preparation of bandages; the *third* is devoted to the consideration of apparatus of various kinds used in the treatment of Fractures; the *fourth* describes the mechanical means used in the treatment of dislocations, with the mode of applying them; the *fifth* details at length the methods of performing such operations as seems to be included in the term "Minor Surgery."

The last chapter has been added by the editor of the present edition. It pertains to Gunshot wounds and such other subjects peculiar to military surgery as seemed requisite to adapt it more thoroughly to the wants of the army.

Border Lines of Knowledge. An Address introductory to a Course of Lectures in Harvard Medical College, Boston. By O. W. HOLMES, Prof. Anatomy and Physiology.

We have sketched this production sufficiently to see that the author has put himself into it pretty thoroughly. The scope to us appears to betray an effort to right-up a little. "Currents and Counter Currents," with the profession of Massachusetts, did not take. The "*silver hoe*," as a cure for typhoid fever, was a little too much indeed for the œsophagus of the North-East.

The production before us attempts to draw the line between *what we know and what we don't know.* Or, perhaps it might be better characterized as an effort to show, that after all, we are merely paddling about in the dark. The author goes swaggering over the medical sciences, cuffing them around as though there had never been a Haller or a Hunter. Before he got to Chemistry we thought there was a breaker ahead for him. But we give it up; he demolished the concern in short metre. Of course, other branches surrendered without "firing a gun." Anatomy held out a little, and so did Physiology; but both were vanquished, and asked quarter. Who, we thought, after witnessing the author's effort, could help exclaiming, *sic transit gloria mundi!* or, "A vandal has been among us, and behold the desolation!"

Badinage aside, how much more useful one who has the access of our author to the public ear, might make himself, by dwelling on the bright side of the picture. Nobody claims perfection, or any thing approaching it, for Medicine. But certainly the experience of three or four thousand years is worth something, and certainly every generation, by cultivating the physical sciences, has given us something that is worth heeding, at least, until something better is known. Why attempt to tear down a building, however rickety, without being able to build a better one in its place? The leading folly of all ages has been blind *analysis*.

Editorial and Miscellaneous.

Drs. Hewitt and Stipp.—The following has been issued by the Secretary of War:

"Grave complaints against Assistant Surgeons Hewitt and Stipp having reached the Department, they are suspended from duty, and ordered to report themselves. A negligent or inhuman surgeon is regarded by this Department as an enemy of his country and of his race, and will be dealt with according to the utmost rigor of the military law."

We noticed the complaints of newspaper correspondents, or rather of one correspondent, against Drs. H. and S.; but had no idea at the time that they would prove true. Complaints against physicians in private and public business are of every day occurrence. No one can please all his charge, at least we have never seen one so fortunate. Complaining is the normal state of a good many people. All cannot be relieved, it matters not what care they receive. Some must suffer and die, and this will be their lot irrespective of wisdom or "humanity." But that any sane surgeon has been capable of treating those under his care inhumanly, is a proposition so monstrous that opinions may well be suspended until the proof is furnished. With a quarter of a century's experience, mixing up all the time freely with medical men, and knowing no little of their movements with reference to their patients, we have seen, to this hour, no instance of "inhuman treatment" of a patient. Dr. Hewitt is from New York city, and is a gentleman of ability, and has a good character at home. Of Dr. Stipp we know nothing, except in connection with these reports. The complaints against both will now of course be investigated, and we believe will, as in the case of Surgeon Porter a few weeks since, prove groundless.

Assistant Surgeons.—A law has just passed the Legislature, authorizing the appointment of thirty additional surgeons. The troubles of the last few weeks have made this measure necessary. After the battle of Shiloh, our surgeons were literally overwhelmed with labor. Hundreds of wounded soldiers lay on the spot where they had fallen, for days after the battle, unprovided for in any way whatever, because of the insufficient number of surgeons on hand. Those who were present exerted themselves to the utmost, but their number, all agree in stating, was too small for the occasion.

The number of killed and wounded it has been difficult to estimate. The returns thus far show, of the six Divisions of Gen. Grant, and the three of Gen. Buell: killed, 1735; wounded, 7882. Of the wounded about 300 have since died, and 1000 more are expected to die.

Owing to exposure both before and since the battle, that it would be difficult to exaggerate, and to the pestilential atmosphere of the region, our ranks since the battle, it is said, have been almost decimated by disease. Add the fact that another battle is expected, and who will regard this corps of thirty additional surgeons as sufficient for the emergencies? The truth is, Gov. Tod was more nearly right when he asked the Legislature to provide for the appointment of *sixty* additional surgeons. It may also be stated in this connection, that quite a proportion of surgeons have died, resigned, or returned home in bad health.

QUALIFICATION OF ARMY SURGEONS.—A bill passed the Senate a few days since, placing the graduates of every institution called "Medical College," on the same footing, so far as eligibility to appointments in the army is concerned. The bill was defeated in the House. Both branches, however, passed a law repealing the Act of last year creating a "*Board of Medical Examiners.*"

Although the power to appoint is really in the War Department at Washington, it is nevertheless not exercised further than in furnishing blank commissions to the Governors of the several States, who fill them up.

In this state of things, Gov. Tod and Surgeon-General Weber have concluded to summon the Board of Medical Examiners to come forward and again resume work. The Board meets on Thursday the 8th inst., in this city. It is composed, as when it last met, of Drs. Murphy, Cincinnati; Russell, Mt. Vernon; and Woodbridge, Youngstown.

GOV. TOD has just inaugurated a very important and humane policy with reference to the sick and wounded of Ohio Volunteers. Vessels have been dispatched, properly fitted up and supplied with physicians, to all of the hospitals of the Mississippi Valley, outside of the State, for the purpose of bringing our invalid soldiers home. This measure will place these poor soldiers more immediately within the reach of relatives and friends, where everything which sympathy and kindness can suggest will be employed for their recovery.

There is not the least reason to believe that the Ohio soldiers now scattered about in the hospitals of other States, are not well cared for, as well as they could possibly be among strangers; but "home, sweet home," how tonic and invigorating the thought! Nature, just ready to succumb, will, under its influence, rally and perhaps triumph.

AMERICAN MEDICAL ASSOCIATION.—The meeting of this body, which was to have taken place in Chicago, has been postponed another year. This action has been taken by the Executive Committee in view of our present political troubles. It is to be hoped that another year may find the country, as heretofore, favorable to the meeting of East, West, North and South in council, devising means to save life and lessen suffering. Almost every organization now of the Continent has yielded to the analytical tendencies of the age except the Medical.

THE BRITISH AND FOREIGN MEDICO-CHIRURGICAL REVIEW.—This able Quarterly, that we have been in the receipt of for so many years, the re-publishers of in this country, S. S. & Wm. Wood, New York, inform us by letter, is discontinued on account of political troubles. The whole profession will regret this. The work came to us every three months, full of treasures. By it, perhaps more than any other journal, we have been made acquainted periodically with European Medicine. The tone of the work has always been exalted; indeed, it has been ballast for both Continents.

WE regretted very much to hear that when the House of Representatives had before it the bill authorizing the appointment of a Board of Medical Examiners, no little animadversion was indulged in by members in regard to medical science, its professions, utility, etc. Our sense of mortification, however, was deepened when we heard that the principal actors in the disgraceful drama were those who professed to have some knowledge of medicine, and in the halls of legislation acknowledged and answered to the cognomen "doctor."

It is a very difficult matter to make an individual understand a plea or an argument in favor of any science, unless he is versed in the principles thereof. Argument, therefore, is useless with those who are unacquainted with medicine. It is also equally troublesome to imbue gentlemen who have not succeeded well in medicine, with ideas of its importance. They make their failures the standard of comparison. In view of such facts, suppose we make a case for our doubting friends.

Take for example a nation or a people without any knowledge of Anatomy, Physiology, Pathology, Therapeutics, Materia Medica, Pharmacy, Chemistry, Hygiene—for these are the sciences that constitute the Medical—and what would be its condition? A little sober thought here might be of service to those who take interest in such matters.

OHIO STATE MEDICAL SOCIETY.—This body will convene at *White Sulphur Springs*, on the third Tuesday of June next. We are authorized to state that the members of the Society will receive the usual attention. The proprietor, W. A. Wilson, Jr., has leased the Springs the ensuing season to Messrs. Warden & Emery, of the American Hotel. These gentlemen, we are assured, will take great pleasure in ministering to the wants and comforts of the members of the Society.

In view of the emergencies of the country, it is to be hoped we may have a full meeting.

BRETTANNEAU, one of the celebrities of Paris, indeed one of the most able men of Europe, died a short time since. Brettanneau, besides contributing to our knowledge with reference to a variety of diseases, distinguished himself by his labors on Diphtheria.

At Paris, 15th January last, also F. Q. Moreau, an able accoucheur of that city, senior Professor of the Faculty of Medicine, Paris.

WHEN Robert Southey, in his erudite and curious inquiries concerning Dr. Daniel Dove of Doncaster and his horse Nobs, comes to the interesting period in the Doverian history when Dr. Daniel, like many other Daniels and Doctors before him, dallies with Venus's mischievous, rollicking boy, who has created more stir in the world than any other young gentleman with or without wings, Mr. Southey, like a very sensible historian, recognizes in his materials for a new chapter two rather incongruous ingredients—love and physic—and declares he will not mix them up together. When an individual meditates upon the "fitness of things," he may be very easily led to a conviction that nothing is more incompatible than romance and rheumatism, poetry and physic, ipecac and inspiration, and may come to consider Donne and Blackmore, Garth, Arbuthnot and Akenside as examples of professional obliquity, and to have been under the influence of strange gods, or to have been forsaken of Esculapius and cast off from his keeping. If medicine itself was not a powerful sedative to a hot imagination; if medical study did not institute a free mental catharsis of all poetic "vapors" (if the tuneful frenzy may be explained in the manner of Swift's elucidation of the divine art of Belching), if the Art of Healing did not crowd out of a man the art of love and the art of poetry, and subsoil his soul and turn under all useless plants not medicinal, as the "flowers of thought," there would be a medical Fadladeen at every corner to guide the medical Fermoraz, and to repress all poetic tendencies in young gentlemen having professional aspirations. The nature of her "course" is sufficiently adequate to this purpose without the duty being imposed on her individual professors.

We reproduce here an anecdote of Sir Humphrey Davy, from Mr. J. Cordy Jeaffreson's amusing "Book about Doctors," in illustration of the idea that scientific pursuits and poetry do not go on harmoniously together. Sir Humphrey, though not a medical man, belongs to the medical profession more than any other. In his younger days, it is positively asserted, he wrote verses which were of sufficient merit to induce his friends to hope that he would some time be able to ride with grace his Pegasus up the mount of song as high as any mortal of ordinary ambition might desire to go—up in the neighborhood where "daring Milton" sits, at any rate. But when he grew somewhat older, Humphrey turned his attention to scientific pursuits, and the steed, as usual in such cases, threw him; and we will venture to assert, that if in his old age he had essayed to court the muses, the nymphs would have thought him a vain, fussy old fellow, and inspired him with a glow such as they threw over a certain old doctor who commenced a lyric thus:

"Inoculation, heavenly maid, descend!"

Fortunately or unfortunately Davy turned his attention to science, and in a few years his poetic sensibilities were obtunded, and his appreciation of artistic performances obliterated. How decidedly unpoetic it is for a man who started out in life as a poet, to admire pictures according to the frames they were in, and covet a piece of statuary merely as a geological specimen! Although (and how sad it is to remember it) Talfourd wandered through the Louvre because it had been the elysium of his friend Hazlitt, but was as ignorant of its treasures as Humphrey Davy.

When Davy passed through the galleries of the Louvre in 1809, says Mr. Jeaffreson, he could find nothing more worthy of admiration than the fine frames of the pictures. "What an extraordinary collection of fine frames!" he observed to the gentleman who acted as his guide, amidst the treasures of art gathered from every part of the Continent. His attention was directed to the "Transfiguration," when, on its being suggested to him that he was looking at a rather well-executed picture, he said, coldly, "Indeed! I am glad I have seen it!" In the same way, the statues were to him simply blocks of material. In the Apollo Belvidere, the Laocoon, and the Venus de Medicis, he saw no beauty; but when his eyes rested on the Antinous, treated in the Egyptian style, and sculptured in alabaster, he made an exclamation of delight, and cried, "Gracious powers! what a beautiful stalactite!"

"There was in him," says Mr. Jeaffreson, "on some points an extravagant eccentricity, which in most men would have pointed to imperviousness to ridicule. The demands of society, and the labors of his laboratory, of course left him with but little leisure. He, however, affected not to have time enough for the ordinary decencies of the toilet. Cold ablutions neither his constitution nor his philosophic temperament required, so he rarely washed himself. And, on the plea of saving time, he used to put on his clean linen over his dirty—so that he has been known to wear at the same time five shirts and five pairs of stockings. On the rare occasions when he divested himself of his superfluous integuments, he caused infinite perplexity to his less intimate friends, who could not account for his rapid transition from corpulence to tenuity."

W. A. B.

The Royal Society of the days of Sydenham, Mead, Radcliffe and Sir Hans Sloane, was something different from what it now is. Such subjects as the divining rod, and the celebrated Sympathetic Powder of Sir Kenelm Digby, occupied the attention of its members. On its records are entries such as the following:

"Col. Tuke related the manner of the rain like corn at Norwich, and Mr. Boyle and Mr. Evelyn were entreated to sow some of those rained seeds, to try their product.

"Magneticall cures were then discoursed of. Sir Gilbert Talbot promised to bring what he knew of sympatheticall cures. Those that had any powder of sympathy were desired to bring some of it at the next meeting.

"Mr. Boyle related of a gentleman who, having made some experiments of the ayre, essayed the quicksilver experiment at the top and bottom of a hill, when there was found three inches difference.

"The Duke of Buckingham promised to cause charcoal to be distilled by his chymist.

"His Grace promised to bring into the Society a piece of a Unicorne's horne.

"Sir Kenelm Digby related that the calcined powder of toades reverberated, applyed in bagges upon the stomach of a pestiferate body, cures it by severall applications."

B.

CLINICAL NOTES ON INTEMPERANCE AND ITS PREVENTION. By ROBERT DRUITT, M. R. C. P.—The causes and prevention of intemperance well deserve the attention of medical practitioners. Not only because there is a large and influential body—the teetotallers—who absurdly accuse us of being the direct promoters of intemperance through our sanction to the use of fermented liquors as articles of diet, and as medicines; but because intemperance in its most lamentable form may be met with in all ranks, in the most refined as well as the lowest, and because it may spring from certain definite causes which it is within the province of medicine to cut off by the roots.

All hope of prevention lies in the doctrine that intemperance is a secondary, and not a primary vice; and that, although when once established it is the parent of a hideous brood of evils moral and physical, yet that it is itself a *consequence* of foregoing disease or error. Early in my professional life, circumstances led me to see and reflect much on it, and I now venture to write from the conviction that much good would result if the conditions which commonly lead to it were more systematically acknowledged and subjected to medical treatment.

The properties which cause alcoholic liquors to be abused are those exerted on the stomach, heart, and nervous system. They enable the stomach to deal with refractory articles of food, and abate the painful sensations of hunger. They quiet the perturbations of a feeble heart; and they modify the entire state of the nervous system. Especially, they alter the current of thought; they may be used legitimately to neutralize the effects of grief, and enable a man to work on undisturbed by fear and despondency; on the other hand, they may be abused for the purpose of stifling the warnings of reason and conscience, and enabling a man to live with self complacency in the midst of degradation and poverty.

The most cursory examination leads us to divide drinkers into two classes. First, the open, gregarious, convivial, riotous set, who indulge in the habit for the sake of pleasurable excitement, and of whom the majority are men. Persons of this class drink because they know of no better or more intellectual enjoyment; they are the victims of bad education and bad social customs. Medicine may assist in relieving them from the after effects, but can scarcely do much by way of prevention. That must be sought by improving popular education, and increasing the opportunities of healthy recreation.

The other class are the secret, solitary drinkers—most of them women. They deserve all commisseration, because they are dragged into the habit for the relief of miseries moral and physical, which medicine can do much to remove, and which I propose to consider in order.

First, there are such as concern the stomach. Dyspepsia in all its forms, more especially when aggravated by a scanty or unsuitable diet, is a great temptation. But there is one peculiar form or symptom of dyspepsia which is an almost overwhelming one. This is a feeling which may be described as bulimia—an intense, overpowering, sickening sense of emptiness, with ravenous desire for food or stimulants, and often some degree of vertigo. The frequency of this symptom renders it well worthy of attention, for its causes are most diverse, and its pathology can only be expressed by an indefinite reference to some morbid condition of the par vagum. It differs from ordinary hunger in the rapidity with which it comes on and its persistence after food. It is common in the stomach disorders of the youngest infants. Here it usually depends on liver congestion, and is relieved by proper medicines; although it is made the pretext, by nurses, for asserting that "the milk doesn't satisfy," and for craming the unfortunate little patients with all sorts of solid food and stimulants, even including alcohol. A yellowish eye, red lips and tip of the tongue, frequent micturition, more or less constant restlessness with occasional fits of severe colic, and an insatiable craving for the breast, are the too familiar symptoms. In older children, it is a very common symptom of impending illness, from depraved secretions in the alimentary canal, and worms. In adults, it very often shows itself under similar circumstances. It may be caused by protracted fasting. I know a member of our profession, who went one night to sit up with a patient. He had been much hurried, and had lost his dinner, and on coming to the patient's house with an intense feeling of hunger, found no refreshments prepared for him, and through *mauvaise honte*, did not ask. He passed the hours between eleven and five in the greatest uneasiness, with the sensation as if fifty rats were gnawing his stomach. That sensation never left him for two whole hours together for six months; during which he was extremely reduced by feeble digestion. He was finally cured by diet, but confessed that his craving for brandy was terrible, and that he might have been made a tippler. Salvatori, whom Dr. Christison quotes as giving in 1817, the earliest description of dipsomania, describes the same symptom. That which predisposes to intemperance, he says, is "a disordered state of the abdominal ganglionic system of nerves, allied to that which causes in children the raveneus appetite constituting the disease bulimia, and in adults the wide spread disorders we are in the custom of calling hypochondriacal and hysterical. Tapeworm brought on the craving for drink in nine out of fifty patients noted by Salvatori. That has never come within my experience; but the unnatural craving, or hungry dyspepsia, has been incessantly noted by me as an evidence of what is called congestion of the liver, and a forerunner of gouty and rheumatic attacks, and of those disorders which lead to headache and vomiting, and are vulgarly called bilious sick headaches. I attended for some years a girl who had about once a year an attack of rheumatism. Her heart was damaged, and she had mitral regurgitation. She learned by experience to know when her illness was coming on, for she had two premonitory symptoms: one, an eruption of patches of erythema on her elbows; the other, a most intense craving for food, and especially for drink. She would go down into the kitchen at night, and eat and drink everything she could lay hands on, particularly beer; and yet at other times her appetite was very indifferent. After the hunger and the erythema came pain in the ankles; then pain in the region of the heart, consolidation of the upper lobe of the right lung, and hæmoptysis. The significance of these facts in explaining periodic intoxication will be noticed hereafter.

This ravenous sense of hunger is remarkably common after circumstances which create great nervous exhaustion. I have known it after confinements. On one occasion a patient suffered a protracted confinement, and a milk abscess afterwards, and was brought into a state of nervous exhaustion. She was sleepless and irritable, but the chief symptom was the extraordinary demand for food, wine, stimulants, and opiates, and the tolerance of enormous quantities. Not an hour passed without beef-tea, wine, sandwiches, panada, or some other most concentrated nourishment, and a remonstrance was addressed to me by the family, lest I should be laying the foundation of intemperate habits. Her entreaties for the strongest opiates were curious. I have seen the same thing after surgical operations and accidents, and have known habits of intemperance to ensue from gratifying the inordinate sense of hunger attending the growth of a prodigious fibro-plastic (or sero-cystic) tumour of the breast. Grief may be attended with the same feelings, as I shall relate in order. What I want to insist on now is, that this feeling of emptiness is not mere debility, a physical result of loss of blood, or famine, for it may exist when the stomach is full; neither is it a healthy appetite intensified; but that it is a disordered sensation, a subjective hunger felt when there is no real emptiness; a neuralgia, in which the pain takes the shape of hunger, and is usually attended likewise by some degree of vertigo, or sense of cerebral faintness.

The tendency to such feelings is vastly increased by past habits of voracity and intemperance, and by everything which tends to make the stomach large. The voluminous and atonic bowels of women who have not been well bandaged after their confinements, are, to my knowledge, sources of danger on this score; for a big belly, like too large a house, must be furnished somehow.

So much for the stomach. As for the heart, it is often implicated in the conditions which give rise to intemperance, as well as in those after effects which are produced by long indulgence. But I do not think the heart is often primarily to blame.

Nevertheless, patients with hypochondriac symptoms often complain of their hearts, as for example in that set of symptoms which may be called "idiopathic terror." A poor woman is sitting quietly, when all at once an indescribable feeling of shock comes over her; something seems to flash through her brain which fills her with the most intense alarm; all the symptoms are identical with those of sudden fright, and amongst them are the pale face, the panting distended alæ of the nostrils, and the rapid tumultuous beating of the heart. In this, as in many other disordered states of the nervous system, the heart is intensely perturbed; but I have never satisfied myself that any primary disorder of the heart creates hypochondriasis, or the desire for drink. Both stomach and heart do so, only if they disturb the brain.

There are certain general states of bad health which create the tendency to drink, if it so happen that they affect the nutrition of the brain. It is an ultimate fact that in some states of intense debility the mind may be clear, vigorous, and cheerful. Persons dying of lingering disorders sometimes have fits of syncope, which seem as if they were going to end fatally, but pass off, and allow life to go on a little longer. Dying persons have told me their sensations. A friend of mine who died after a very lingering illness told me a day or two before his death, that he had had a fit of faintness that morning; he had lost all consciousness of outward objects, but preserved his mind clear and calm, expecting every moment to be summoned into the presence of his Judge. He desired to die; and great was his disappointment when he found himself again becoming cognizant of the too familiar objects in his chamber. Life was here flickering at the lowest ebb, yet not a trace of mental depression. In other cases, on the contrary, the slightest deviation from vigorous nutrition induces great mental disturbance. Pain alone seldom does so, although neuralgia and chronic rheumatism sometimes create a demand for stimulants, through the exhaustion attendant on pain, sleeplessness, and hopelessness.

But as for debility with mental depression, it is almost impossible to over-estimate its dangers. The miseries of the first walk during convalescence, or of the first entry into business, of being obliged to stand, and maintain an attitude of attention, when feeble and listless, are greater than those of any pain. Then there are the disastrous effects of bodily weakness on the mind; the peevishness and bad temper, the habits of procrastination, the shifty, deceitful tricks, and the false excuses coined to palliate want of punctuality. Weakness is more immoral than poverty itself. Add to this what is called *nervousness*, a kind of moral cowardice, and dread of seeing any new face, or beginning any new business. Consider besides that many diseases, especially of the malarious kind, not only rob the body of its strength, but leave the blood in a poisoned state, so that the hypochondriasis resulting from impure blood is superadded to the mental feebleness arising from bodily exhaustion.

In relation to this part of the subject it may be asked, What influence has the administration of wine in sickness in creating a morbid taste for drink during convalescence? For some years I have made it my duty to institute careful inquiries on this point, especially as to the fate of patients who have been rescued from fevers by enormous quantities of wine and brandy. My inquiries have led me to two positive conclusions. That any amount of wine may be given during an illness without leaving the slightest craving for it afterwards; that patients who greedily swallow it when ill, lose their taste for it when it becomes needless; and if they be vigorously treated and vigorously followed up, so as to be restored to good health, they are safe. But when patients are not treated vigorously, when they are left half cured, when they are obliged to return to their work before their strength is fit for it, and then when some demon comes in the shape of a friend who recommends gin or beer without food, there is great danger that a habit of drinking may be created.

It is the common slander of the teetotalers that we make people drunkards by recommending them wine or beer when ill or weak. Again, there are few women tipplers who do not say they were advised to drink by their medical attendants. It is certain, therefore, that practitioners cannot be too cautious in defining the exact quantity of any alcoholic drink they may prescribe, and the exact times, and the food that should be taken with it—and this more especially in illnesses of a chronic and debilitating sort, as menorrhagia, abortion, and, above all, diseases arising from malaria, as ague and neuralgia, than which none make greater havoc of mind and body.—*Med. Times and Gazette*, Jan. 11, 1862.

GROWTH OF CINCHONA IN INDIA.—Dr. Anderson has returned to Calcutta from his mission to Java, with the large number of 412 cinchona plants of three species, and with half a million of seeds. The cultivation of the cinchona in Java, which began with 139 trees in 1855, has hitherto been most successful, but the Dutch do not possess many specimens of the variety whose bark yields the largest proportion of quinine. Dr. Anderson was enabled to supply them with some of the best specimens in return for their liberality and courtesy. Of one species the Dutch have now no less than a million of plants, and of two or three others they possess several thousands. In June, 1857, the whole number they had was only three hundred, so rapidly have they propagated themselves. The well-known German naturalist, Dr. Junghuhn, is in charge of the plantations, and he was recently joined by Dr. de Vry, a chemist not unknown in England to the members of the British Association. The report of the first of these gentlemen, now before us, details, with a scientific prolixity which we shall not inflict on our readers, the various steps of the experiment. South-west of Tjibodas, 4100 feet above the sea, in the very centre of Java, natural forests extend for miles, the soil consisting of loosely heaped blocks of trachytic lava. To this spot, under the shade of wide-spreading branches, the plants which had withered in a more exposed locality, were transferred in October, 1857. Six months after, they began to die in their new habitation, and the cause was soon discovered in a small beetle of the "bostrichus" species, never before seen in the Java forests, which deposited its brood in the trunk. After many difficulties and experiments with soils and localities, the Malawar mountains have proved the best spot. The slightest differences of altitude, light, and temperature, affect the *calisaya* variety. The hardiest, though least valuable, is the *lucumaefolia*, but if the former be planted early in good, loose, forest soil, and moderate shade, particularly in the region of from 5000 to 5700 feet above the sea, it grows up as tall and luxuriantly as any.

Each capsule of each plant contains an average of twenty-five seeds. One *calisaya* yielded 485 capsules, and each good plant may be said to yield 1300 seeds. Of 2000 well developed seeds sown with care on cleared soil under the shade of trees, only one grows to a real plant; for the slightest touch, even of a drop of water, or a crawling worm, kills the root of the young germ. At first the plants grow slowly, but after two years they are two feet high, and then shoot up with great rapidity if raised from seed. The plants thus successfully introduced, an important question arises—Will they yield as much quinine as in their native home in Peru! To test this Dr. de Vry was sent to Java, and he records with no little triumph how, on 21st July, 1858, two and a half years after the first plants were introduced, he was enabled to produce a pure white crystallized quina alkaloid from the bark of one of those stems which the beetle had destroyed. Soon after he obtained from a *calisaya*, not five years old, the same percentage of quinine which the Bolivian trees yield, or 3·12. At the end of 1861, the experiment in Java, only six years old, has thus succeeded most completely. Many of the trees are now thirty feet high.

This is full of hope for India, where the plant is now being grown under exactly the same conditions. The total number of plants is 5847, and more than half are of that red bark variety which is most valuable, the dry bark selling at from 2*s*. 6*d*. to 8*s*. 9*d*. per lb. Rich as are the forests of Bolivia, from which the world draws its sole supply at present, they will not last long. Formerly the trees were every where found around the inhabited parts of the region, but now to meet with one of a tolerable size it is necessary to penetrate several days' journey into the forest. What India is doing as a substitute for North America in rice and cotton, she must become for South America as an exporter of quina bark. We believe a nursery will be shortly established on the Khasia Hills. In less than ten years India should supply herself with all the quinine she needs. In a few more, sulphate of quinine as well as quina bark should bulk largely among her exports.—*Friend of India.*

FEVER AMONG THE RICH.—Fever, fighting for each foot of ground against the preventive physicians who seek to assail its strongholds, has retreated from the haunts of the poor to the houses of the rich. An efficient body of health officers have occupied themselves in this metropolis with driving fever from the filthy purlieus of the poor; they have swept away the abominations which invited it to those favorite camping-grounds. In the city alone five thousand cesspools have been removed, and with them the cohort of zymotic fevers which dwelt in the brooding miasms of their surrounding atmosphere. The poorest neighborhoods are now well drained, and kept free from sewer gas and the like sources of disease. During the last few years the mortality from fever was so much lowered as to give signs of the manifest success with which the officers of health had fought the good fight. But fever has found a new refuge, and again deals widely its fatal strokes. The houses of the rich have not the intelligent care and supervision which by law are given to the dwellings of the poor. This defect has been much debated by the health officers, and recently at their meeting it was resolved, in discussing a paper by Mr. Lyall, pointing to this want, to obtain powers for the health officer in respect to the construction of new dwellings, in some measure correlative with those given to the district surveyor. The wealthy have left open in their houses loop-holes, through which fever can enter by gullies, untrapped drains, and similar defects of sewerage. The enemy has entered, and the middle and upper classes of the metropolis are now suffering from typhoid fever—the fever of filth, of sewerage gas, and of tainted water. The returns of deaths from this cause, which had fallen, are now rising again. The increased mortality is not amongst the poor, for they are still in their former favorable condition in this respect. In the autumns of 1859 and 1860, when the mortality from the disease was not nearly so high as it is now, the number of fever cases attended amongst the poor by the medical officers of the city unions was from 301 to 313 in the quarter—making an aggregate of 10 per cent. of the sickness returns; but during the quarter which has just expired the number of fever cases amongst the city poor has been only 76, which is barely 3 per cent. of all the sickness. No fact can indicate more strongly the migration of fever to the houses of the upper classes. They too must call in the systematic supervision of the health officer.—*Lancet.*

PHENOMENON OF HYBRIDITY IN THE HUMAN GENUS.—Broca has by careful researches been led to the view that the various races of man are different species of the same genus. He exposes as inconclusive the principal arguments adduced in favor of the unity theory, and dwells especially on the incorrectness of the assertion generally made by the defenders of this theory with regard to the phenomena of hibridity in the various races of man, and in various species of animals belonging to the same genus. It has been set forth as the most irrefutable proof of the unity of the human species, that hybrid productions of two different races of man are perfectly able to propagate themselves, while hybrid procreations of two species of animals of the same genus are said to be unable to do so. Broca, however, shows, first, that some of the hybrid productions from different races of man, possess only a limited power of propagation; and, secondly, that some hybrid species of animals, as those from the crossing of the dog and the wolf, the goat and the sheep, the dromedary and the camel, the hare and the rabbit, are perfectly able to propagate their species.—*Brown-Séquard's Journ. de Phys.*, vol. iii. 1860.

CASE OF EPILEPSY SUCCESSFULLY TREATED.—Amongst the great number of epileptic persons who attend the out-patient rooms of Dr. Brown-Séquard at the Hospital for the Paralyzed and Epileptic, nearly every form of the disease occurs, and singularly anomalous symptoms are observed, The seizure may have its precursory symptoms in contractions commencing in every muscle of the body. The fit was initiated in one boy, whom we saw there last week, by violent contractions of the abdominal muscles. Dr. Brown-Séquard referred to a similar case, in which the epilepsy was pointed out to him as probably due to an existing tenderness of the stomach. On examining this, it proved to be caused by considerable hypertrophy of the recti abdominis muscles, the physiological effect of increased action in their incessant spasmodic contractions. In other cases, the muscles of the bladder are first affected; and in a patient of Dr. Brown-Séquard so situated, the warning of the fit was given by a violent spasmodic contraction of the bladder two hours before the fit commenced. This was so violent that the urine was projected several feet from the body, and it was immediately followed by a deep and irresistible sleep. The muscles of the lower bowel have been suddenly affected in other cases, and here the motions are expelled with violence, and straining effort continues after the bowel is empty. In all these cases phenomena may be observed which seem to indicate the local and irregular disturbance of the circulation of the brain—irregular contractions of the arteries—causing congestion of one part and anæmia of another.

In the first case mentioned, and in many others, the greatest benefit has resulted from the use of belladonna and quinine, steadily pursued for many weeks. Belladonna is one of the remedies most effective in the treatment of simple epilepsy. It is, indeed, one of the few rational remedies for the disease. The other remedies most commonly useful in the practice of Dr. Brown-Séquard at this hospital are, the ammonio-sulphate of copper, the valerianate of atrophine, and the citrate of iron and strychnia. The last is a definite compound, containing the one-hundredth of a grain of strychnia to one grain of the salt.

Amongst the most protean cases are those due to the presence of worms in the intestinal canal. In these the very wide range of symptoms sometimes in itself forms a guide to the cause of the disease. The elimination of the worms does not, however, always suffice to effect a cure; the diseased habit of the nerves requires to be treated. In children, Dr. Brown-Séquard orders commonly salt-water injections, with purgatives, and subsequently belladonna and quinine. There are many cases on the books in which cure has followed.

In a remarkable case, now favorably progressing, the fit is preceded by water-brash and the flow of saliva in the mouth. In another case, the patient is seized, without warning, with a sudden jumping of the limbs of the right side; these become fixed and contorted, and he stands statue-like in the street or elsewhere, with one side of the body immovably and singularly distorted, but without loss of consciousness. This patient has been greatly benefited by the use of belladonna and quinine.—*Lancet*, Feb. 8, 1861.

Polypus of the Rectum.—Although surgical writers have always regarded this disease as a rare one, modern surgeons are now beginning to discover that such is not the case, and that examples are not infrequent among the out-patients of a Metropolitan Hospital Mr. Bryant informs us, as the result of his experience, that the disease is by far the most common in children, and in those under two years of age; and the chief symptom by which the presence of the growth may be recognized is bleeding from the bowel. In adults, this surgeon affirms that the affection is comparatively of rare occurrence, the experience of Guy's Hospital certainly well supporting this assertion.

We give the following case as one amongst the most recent which have taken place in Mr. Bryant's practice:—Francis D., a boy aged 10 years, was brought by his mother to Mr. Bryant on January 10, for hemorrhage from the bowels. The bleeding had appeared at times for one year, but for the last three months it had been very constant and profuse; it came on, however only when at stool. Upon making an examination with the finger, a polypus, the size of a large nut, was detached and hooked down, a ligature was applied to its pedicle, and on the third day the growth came off. No bleeding followed, and convalescence was speedily established.—*Med. Times and Gaz.*, Feb. 8, 1862.

PROGRESS OF GROWTH ACCORDING TO AGE.—Prof. Quetelet has established from his calculations the following positions as regards the inhabitants of Brussels: 1. The most rapid period of growth commences immediately after birth, the infant increasing about two decimètres in the space of a year. 2. The proportionate increase of growth then diminishes as age increases, until towards the fourth and fifth year, when the child, attains its maximum of probable life. Thus, during the second year, the amount of growth is only one-half of that of the first, and during the third year about a third. 3. From the fourth to fifth year, the increase becomes pretty regular until towards the sixteenth year—that is, until after the period of puberty—the annual increase being about fifty-six millimètres. 4. After the age of puberty the growth continues to increase, though only feebly. Thus, from sixteen to seventeen years it increases four centimètres, and in the two following years two and a half centimètres. 5. The total growth of man does not seem completely terminated at the age of twenty-five. M. Quetelet also found that the height of the inhabitants of the town exceded that of the peasantry.—*Med. Times anu Gaz.*, Jan 4, 1862, from *L'Union Méd.*, No. 148.

COCCYGODYNIA.—This affection, to which attention was drawn by Professor Simpson, a short time since, is said by Scanzoni to be far from rare, for he has seen twenty four cases of it during the last four years. It has been, he says, frequently mistaken for a symptom of some disease of the genital organs, which often accompanies it; and also for hemorrhoidal pain. Dr. Scanzoni has never observed the disease except in women who have borne children; and in nine cases, the patients distinctly traced the origin of their pain to the date of their confinement. Of nine women, six had only had one child; and in five cases, the pain appeared after instrumental labor.

We may, therefore, consider that the act of child-bearing is the essential, if not the sole cause of this pain; and we can readily understand why this should be the case, when we recollect the injuries to which the coccyx is liable during confinement. The violent forcing of the lower part of the bone backwards, sometimes to the extent of half an inch, and the stretching and tearing of the attached ligaments, are quite enough to excite inflammation and exudation between the bones which form the coccyx. That this really does frequently happen is shown by the researches of Luschka, who pointed out the frequent anchylosis of the bones of the coccyx which takes place. Dislocation of the bone, of the kind here spoken of, must evidently cause pressure upon and injury of the nerves, by the tearing and rupture of the ligaments which naturally protect and sustain them. Hence, we can readily understand why the delivery of the child should be the cause of coccygodynia.

The persistence of the affection is to be ascribed in part to the peculiar relations of the coccyx to the parts around it, and in part to the diseases which so frequently accompany it. When any change in the position or structure of the bone has taken place, every movement of the lower extremities, sudden sitting down or rising up, or even evacuation of hardened feces, must produce a movement of the bone. Affections of the neighboring organs also aid in keeping up the coccygodynia. Chronic metritis, ulcerations of the os uteri, anteversion and retroversion, very often accompanying coccygodynia. Dr. Scanzoni cannot, indeed, recollect a single case which was not attended by some one of these affections. He has, for example, seen cases in which the coccygodynia immediately ceased, when an anteverted uterus was reduced to its proper position; or when arrested menstrual function was removed. In these cases, we must consider that the persistence of the coccygodynia (originally excited by the act of parturition) is maintained by the affection of neighboring organs.

As regards the treatment, Dr. Scanzoni considers that it is of the first importance to remove the affections of any neighboring organs. He is satisfied that no local treatment is of any avail so long as any of the neighboring organs either press upon the bone or excite the coccygeal nerves. The first business of the physician, therefore, is to endeavor to ascertain the state of the neighboring organs and parts. When the coccygodynia is recent, a few leeches, or cupping, should be frequently applied over the bone, warm effusions, hip-baths, etc. The patient should maintain a horizontal position, and refrain from all violent exertion. The bowels should be kept loose. These means are sometimes followed by a temporary cure; but the pain generally returns after a time. In such cases, when there is no sign of inflammation, Dr. Scanzoni has found subcutaneous injections of morphia of great service; and he cannot, like Dr. Simpson, regard them as merely palliative. He has not found the sulphate of atropine so efficacious as the morphia. Dr. Scanzoni has not yet tried subcutaneous section of the muscles and tendons, as recommended by Dr. Simpson; for he had never met with a patient in whom the intensity of the pain was such as to require such an operation, which is not without danger.—*British Med. Journ.*, Dec. 28, 1861, from *Wurzburger Medicine Zeitschrift.*

ON CERTAIN OF THE EARLY SYMPTOMS OF THE ERUPTIVE FEVERS. By DR. SEE.—To say that a child is about to have an eruptive fever, and to announce beforehand that the disease will be measles, scarlatina, or small-pox, is a point of great interest, if not for the child, at least for the practitioner. It is the surest means of acquiring, from the first, the confidence of the family, for there is no doubt that people think more of the accuracy of the diagnosis and prognosis of a physician, than of all the care and intelligence he may have shown in the treatment of the case. "Let us see, then," said Dr. See, "what are the prodromata of the eruptive fevers of which the observation is important."

A character common to the eruptive fevers is the suddenness of invasion, accompanied by a peculiar state of precordial anxiety, as pointed out by Borsieri. In typhoid fever the invasion is preceded by a lengthened period of discomfort ; the child has lost its gayety, and is fatigued without cause ; this state lasts for several days.

Scarlatina is sometimes ushered in by symptoms which simulate cholera. Six months ago Dr. See was sent for to see the grandchild of a physician, who, at two o'clock in the afternoon, had been seized with choleraic symptoms. Dr. See could not see the child till half-past five o'clock. By this time, however, the eruption of scarlatina was manifest. Had the physician arrived sooner, he would not have seen the eruption, but he would have examined the throat, and would infallibly have found the angina which always precedes and accompanies scarlatina.

Measles does not give rise to vomiting, which, however, is a premonitory symptom of scarlet fever and small-pox. If then there is vomiting, and no affection of the throat, examine the arm. If the vaccination cicatrix be well marked, there is every chance that the small-pox will be mild. One of the constant precursors of small-pox, and on which Professor Chomel always laid great stress at his clinique, is pain in the loins. Also examine the back, for it is there that the first spots of small-pox make their appearance. In small-pox, also, the fever is continuous. In measles the premonitory fever is often remittent, or even intermittent. You have seen a child in the evening, feverish ; next morning he seems lively, you are told that he has taken food, and you go away fancying that the little attack has passed off ; then the fever returns, and soon other symptoms announce that the child is about to have measles ; these other signs are the lachrymo-nasal catarrh, which appears about the third day. It may be said that influenza presents the same symptoms. No doubt, the resemblance is pretty close. There is remittent fever, subject to exacerbations, and towards the third day the nose and eyes are affected. But to remove all doubts, it will be sufficient to auscultate the chest. If the disease is influenza, you will find already (by the third day) the signs of bronchitis; whilst if you have to do with measles, the results of the examination will be negative. In fact, it is on the fourth day that a child who has had a remittent fever, followed by a lachrymo-nasal catarrh, is seized with the characteristic cough. This cough, with its muffled sound, sometimes suggests to the parents the idea of croup, or hooping-cough. It is neither one nor the other; it does not come on in paroxysms. As in influenza, it consists of separate coughs closely following one another, and which continue till the eruption makes its appearance.

One word on a complication which may render the diagnosis of certain eruptive fevers obscure. The scarlatina eruption sometimes appears within the first six hours, rarely later than twenty-four; but it sometimes happens that small-pox is preceded by a scarlatiniform eruption, which has been especially described in England. This rash is sometimes limited to the belly. But even here there is no room for doubt. The rash does not appear till the second day, and if you examine your patient minutely from head to foot, you will find, especially on the back, some spots of small-pox. In fact, when the rash is present, the small-pox eruption has already commenced. Twice, a distinguished physician of Paris compromised his reputation by announcing scarlatina, while Chomel found, by examining the back, that he had to do with cases of small-pox.—*Edinburgh Med. Journ.*, Dec. 1861, from *Journ. de Méd. et de Chirurg. Prat.*, Oct. 1861.

A NOVEL MARRIAGE LICENSE.—M. Giordano, professor of midwifery at the University of Turin, gave this year the lecture introductory to the business of the session, and alluded principally to deformities of the pelvis in relation to marriage. So impressed is the professor with the importance of a capacious pelvis in a married woman that he proposes the following regulation: "Every woman shall be required, before signing the marriage register, to produce a certificate respecting the proper conformation of her pelvis." Another summary measure touching pelvic organs has been proposed by M. Larghi, of Vercelli: as a preventive of puerperal fever, the lining membrane of the uterus should be well brushed with a solution of nitrate of silver.—*L' Union Médicale.*

Iodide of Potassium.—This salt is one of the remedies which has of late steadily increased in general favor. This may, perhaps, to some extent be explained by the fact to which we have frequently adverted, that recent researches have proved many hitherto obscure affections to be really due to remote syphilitic taint. Although very valuable in some forms of rheumatism, and in procuring the absorption of inflammatory products generally, yet it is against the tertiary forms of syphilis that this salt best shows its specific power. Of late years the customary dose has much increased, and eight to ten grains is now with many of our Hospital Surgeons an ordinary prescription. Considering the enormous quantities which are prescribed both in Hospital and private practice, and the rarity of any observable ill effects, it is quite clear that for the most part it exerts no evil influence. Wasting of the breasts and testes, the bugbears of former times, are now never heard of, and anything like iodism is certainly exceptional. The addition of ammonia to all mixtures containing the iodide of potassium is now a very common practice. We mentioned it some years ago as having been strongly recommended, amongst others, by Dr. Gull at Guy's, and by Mr. Paget at St. Bartholomew's. Mr. Paget used to remark that he considered five grains of the iodide with half a drachm of sal volatile equal to ten grains of the iodide alone. With some Surgeons, and especially in the treatment of syphilitic diseases of the nerves or brain, the addition of tincture of nux vomica is frequently made.—*Med Times and Gaz.*, Jan. 4, 1862.

Age of the Professors of the Faculty of Medicine, Paris.—M. Moreau, recently deceased, 72; Cruveilhier, 71; Rostan, 71; Piorry, 67; Paul Dubois, 66; Velpeau, 66; Andral, 64; Bouillaud, 64; Langier, 63; Jobert de Lamballe, 62; Trousseau, 60; Guillot, 59; Moquin-Tandon, 57; Malgaigne, 55; Nelaton, 54; Denonvilliers, 53; Gavarret, 52; Bouchardat, 51; Grissolle, 50; Longet, 50; Tardieu, 45; Wurtz, 44; Gosselin, 43; Jargavay, 42; Regnault, 37.

About 100,000 cinchona trees, which produce the Peruvian or Jesuit bark from which quinine is distilled, are now flourishing in the Dutch settlements in Java. A few years ago there were only a small number of these trees there, and which were reared from seeds obtained from Peru. The cinchona has also been planted in the Neilgherry hills in India, with great success. Measures are about to be taken to plant the tree in Ceylon.—*Dublin Med. Press.*

Death from Chloroform.—Mr. G. Turnley reports (*Lancet*, Feb. 22, 1862) the following case of death from the inhalation of chloroform, which occurred at the General Hospital at Hobart Town, Dec. 13, 1861:

"The patient, a fine muscular man, thirty five years of age, was put under the influence of chloroform for the purpose of having the left testes removed, that gland being the seat of malignant disease. The anæsthetic was administered in the usual way, and great care was taken to insure a proper admixture of atmospheric air. Nothing peculiar occurred during the inhalation; the breathing was remarkably quiet and regular; there was no turgescence of the superficial vessels of the head or face; and in about four minutes from the commencement of inhalation the patient was fully under the influence of the drug. At the moment that soporose breathing commenced the pulse became feeble, and the chloroform was immediately withdrawn; the pulse, however, rapidly failed, and in twenty seconds ceased to beat. The ear applied over the præcordial region could not detect the slightest action of the heart. During this period respiration continued regular, and after the entire cessation of the heart's action the patient made eight or ten regular inspirations and expirations, two or three irregular ones, and respiration ceased. Cold water was dashed on the face, fresh air admitted to the apartment, and the Marshall Hall ready method at once resorted to; ammonia was applied to the nostrils, friction to the extremities, and a galvanic current passed from the spine, through the thorax, to the diaphragm. All these measures were applied without delay, and unremittingly persevered in for nearly an hour, but without success.

On post-mortem examination, no trace of organic disease could be detected; the blood was fluid, and the organs generally congested. At the moment that the heart ceased to beat the ventricles were in a state of dilatation; the valves were perfectly healthy; and the muscular tissue of the organ did not exhibit the slightest trace of fatty degeneration.

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Original Communications.

Suit for Damages in a case of Fracture of the Leg, followed by Mortification and Amputation. Reported by Prof. JOHN DAWSON, M.D.

Dr. G. W. Butler, of Alton, Ohio, was called to see F. M. B., in December last. The latter had just suffered a fracture of the tibia and fibula at about the junction of the middle with the lower third of the bones. The fracture was occasioned by the leg being caught in the fly-wheel of a sawmill. On inspection, it proved to be compound and comminuted. The extent of injury of the soft parts was not ascertained. The leg was bandaged and placed in a splint (Day's). At the time of the dressing there was little sensibility or warmth in the foot. The usual appliances were made without effect. On the third day the dressing was removed, and additional efforts made to restore warmth, but to no purpose. On the seventh day the case was seen by Prof. J. W. Hamilton, with reference to amputation. The leg was still found to be cold, discolored, and on the dorsum of the foot phlyctænæ were present. The patient, supposing the foot not entirely destitute of life, another effort was made to restore circulation. This again proving unsatisfactory, the leg was amputated on the next day, the eighth after the accident.

After the amputation the patient recovered, without trouble, except a little secondary hemorrhage, and is now in the apparent enjoyment of good health.

Such is the history of this case as we learned it from the account given of it in the Journal (January number, 1862), and the evidence before the court.

The patient, Mr. B., being dissatisfied with results, brought suit against Dr. J. W. Butler, in the Court of Common Pleas, Franklin county, Ohio, for damages, alleging unskillful treatment and gross neglect on the part of Dr. Butler.

We were present most of the time during the trial, and will merely narrate what passed before us, for the benefit of our readers. We hope to be excused, however, from details, further than they serve to illustrate some point of general interest. Moreover, we shall omit the citation of the legal authorities quoted for the purpose of settling rules by which the case was to be tried.

It seemed during the progress of the trial, that our Judiciary look upon the relation of Physician and Patient as that of a CONTRACT, the terms of which obligate the former to render to the latter THE ordinary amount of *skill, care and attention* that pertain to the profession of which he is a member. Authorities were quoted to show that this rule applies not only to surgeons but to attorneys, and all classes of mechanics.

No exceptions were taken to this rule by either of the parties to the suit. But it was claimed by the defendant, Dr. Butler, and proven by witnesses, that he made, in addition, a special contract with the plaintiff, on first being called to see him, something like the following:

"Now, Mr. B, you have a bad fracture; your case is extremely dangerous. I do not profess to be a surgeon; I am only a physician. I will not treat your case at all, unless you clear me of all responsibility for results."

To this Mr. B., according to the testimony, replied:

"I will clear you of all responsibility. Go on and treat my case. I would rather have you than any one else."

In reply to this the plaintiff's counsel quoted legal decisions, to show that Dr. Butler could not make a special contract with the patient, by the terms of which he obligated himself to render to the patient any thing less than the ordinary amount of "skill, care and attention;" that such a rule would do away with all standards of comparison and prove positively injurious to the interests of society.

On first view, the general rule, the substance of which we have given, viz., that a physician or surgeon, in undertaking to treat a case, enters into a contract to render to the patient the ordinary amount of skill, etc., will strike most persons as very correct and proper, the interests of both parties being considered. It looks also fair and just, because of its application to attorneys and mechanics; and we presume preachers also, though we did not hear this class alluded to by the counsel or judge. When, however, the matter is sifted a little, difficulties spring up. The word "*ordinary*" at once comes up for a definition. What shall it be? What is to be considered *the* ordinary amount of skill, etc., which the physician or surgeon must exercise as his part of the contract? Is any practice ordinary that is not right? and is there any way of ascertaining what is right, except by comparing the practice in a given case with the precepts and practices of the savans in the profession? If the latter question is answered in the affirmative, and we see no other way of answering it, "ordinary" skill means the skill of the best of surgeons—or, at least, the skill of good surgeons.

It is simply unnecessary to suggest that the enforcement of such a rule would not be very pleasant to the profession. Nine-tenths, or we might safely say ninety-nine one hundredths, of all of the physicians and surgeons in the country, would come short if tried by it.

A rule to be just with reference to the practice of surgeons should be such an one as might be complied with by the profession. The individual status of the surgeon should be regarded as the standard by which to judge of the correctness or incorrectness of his practice. On entering into the contract (as the Judiciary has defined the relation) to serve his patient, it should be understood that the surgeon simply obligates himself to render to the patient the skill that he himself possesses, no more. Not much possessed, not much ought to be required. The skill, then, of which the surgeon or physician is possessed, should be regarded as the amount and the only amount to which the patient is entitled.

It would be very unreasonable to expect from young men just commencing business, and those situated remotely from sources of information, the same results in practice that are expected from those of learning and experience. The novice does his best, and be the results what they may, he should not be held accountable. The patient's means often will not allow him the employment of the best skill. He has to put up with what he has in his neighborhood, be it good or not so good, and when this is exercised with reference to his case, we can see no reason why he should be dissatisfied with results.

But what protection, it might be asked, would patients, with such a contract, have against "gross neglect," "inhuman treatment," etc.? They need none further than what they have in the absence of all motives on the part of the surgeon or physician to do anything against the welfare of his patient, and in the presence of his ambition to do the very best of which he is capable. The "gross neglect" so frequently set up as a plea for the recovery of damages, is of such rare occurrence that we confess to never having heard it established against any one. Still less likely might be expected "inhuman treatment." Such charges are more frequently, it might be safely submitted, the result of "gross" ingratitude on the part of the patient, and an "inhuman" desire for money.

SPECIFICATIONS OF THE PLAINTIFF.

The "want of skill" and "gross neglect" charged against Dr. Butler, was said to consist in bandaging the leg too tightly immediately after the accident, and in not removing the bandages at the proper time.

There was nothing definitely proven in regard to these charges.

The patient complained of pain in the leg from the beginning, but there was no reason to believe that it proceeded from the presence of the bandage, for it was mostly confined to the seat of the fracture. The coldness and absence of sensibility in the foot were attributed to the bandaging, though these conditions were proven to have been present from the time of the accident.

The leg was bandaged on Saturday, the day of the accident, but owing to sloughing, and the apprehension of mortification, the bandages were removed on the Monday following, the leg afterwards being encumbered only sufficient to keep it in position.

THE JUDGE'S CHARGE.

Judge J. L. Bates presided during the trial, and made in substance the following points in his charge to the jury:

"The plaintiff alleges that the defendant, in the management of his case, did not exercise reasonable, or the ordinary care and skill. The defendant, Dr. Butler, claims that he had a contract with the plaintiff that he would not be responsible for results.

"A physician or surgeon, in undertaking the treatment of a surgical or medical case, enters into a contract with the patient. In the absence of any special one, the general law requires that the physician or surgeon shall render to the patient the ordinary skill—not the highest order of skill, nor the lowest, but something like the average skill of the profession. The general law also requires a reasonable amount of care on the part of the physician or surgeon. These principles are applicable to persons engaged in other pursuits. A mechanic in building a house, or a lawyer in the management of a case at the bar, is responsible for the exercise of reasonable skill and care. The defendant, Dr. Butler, however, claims that he had a special contract, which obligated him only to the exercise of the skill that he himself possessed. This contract the defendant had a right to make; and this contract, if proven—a matter of which you are to be the judges—is the measure of his responsibility, in the case at issue, for surgical skill."

The jury, after a short absence, rendered a verdict in favor of the defendant.

This case affords ground for comment, more than it can receive at our hands just now.

In the first place, the reader will see that a physician, without any cause whatever, has been arraigned before one of the courts of the State, involving much of his time and some hundreds of dollars in the way of expense, without any cause whatever. But this is not all; the annoyance and mortification of such suits, if, as in the case before us, the surgeon establishes the correctness of his practice, any one may well regard as a sore affliction. Dr. B. treated the case well; and, instead of receiving reasonable compensation and the thanks of the patient and friends, has been made to suffer seriously.

This case, too, by being litigated, has taken up the time of our court for two days or more, has taken from their industrial pursuits, for the same length of time, some fifty men and women as witnesses, and introduced a discord in the neighborhood that will not subside for a year or more; and all for what? There was not the shadow of a case for the plaintiff. Was not this fact, too, as patent before the trial as afterwards?

Physicians and surgeons being, as this case proves, liable to prosecution for any and everything they are called upon to treat, may well cast about for resources in the way of protection. It is, as we have remarked, very far from being an immunity, when heavy damages are escaped, when verdicts are rendered in favor of the defendant. With such a contract as Dr. B. had with his patient, and such a charge to the jury as Judge Bates gave, damages in favor of the plaintiff could not in one case in a hundred be obtained. Still the prosecution is the troublesome contingency, and we should like to see some method of disposition. While the case was pending we remarked to a lawyer that we had never heard of one of his profession being prosecuted for mal-practice, and asked an explanation, supposing, in our innocence, that lawyers, as well as doctors, might make mistakes.

"Well," he remarked, "perhaps the reason is this: no one can bring a suit in court unless it be a lawyer, and it would be a very difficult matter to find a lawyer who would bring a suit against a brother lawyer."

The explanation was satisfactory, perfectly so we thought. Professional courtesy, then, screens the lawyers from expensive prosecutions for mistakes. Have we, we asked ourself, anything in the medical profession equally potent for good? Yes, we have. There is a standing, time-honored obligation resting upon each member of the profession, when he witnesses the getting up of a prosecution of one of his brethren, to use his influence to the utmost for its suppression; and, failing to do this, he should be looked upon as conniving at the misfortunes of his brother.

Being in attendance as an expert in the case before us, our attention was called to the capabilities of members of the legal profession for the investigation of cases involving the charge of malpractice. From what we saw, we were far from being favorably impressed. We have few lawyers at our bar that have even a smattering of anatomy, physiology, or therapeutics, and it may fairly be presumed that such is the case throughout Ohio, and the west generally. Such knowledge has, we believe, not been considered an essential element of education, or, at least, as indispensable to admission to practice. When a case comes forward requiring medical or surgical information, the general practice of the lawyer having it in charge is to *cram* himself; that is, he takes a work on the practice of medicine or surgery, and, without knowing anything of the properties of drugs or of anatomy, swallows as much of it as he imagines his emergencies require. As well might any one expect to be able to solve a problem in mathematics, without first understanding the primary rules of numbers. The lawyer, as a consequence, very often finds himself tangled up, during the progress of the case, with difficulties of his own creation. He asks questions that are irrelevant, or that no one can answer, and construes often the hesitancy of a witness, at giving positive opinions, into a want of candor.

Such being the deficiencies of the legal profession, and we have mentioned them in the most perfect kindness, an improvement might be made. Either lawyers should study thoroughly the elementary branches of medicine, or physicians should be relied upon more in the trial of medico-legal cases. In Europe, such cases are decided pretty exclusively by judges and physicians.

Remarks by JOHN DAWSON, M.D., *on Granular Conjunctiva, at the City Infirmary.*

This disease of the eyelids has long been described. Celsus noticed it; so did Pliny and Marcellus. But few practitioners, really, of any age, who have not encountered it. It is a process characterized with uncommon suffering, and often proves very destructive to the eye. The photophobia and pain, existing, as is generally the case, for a considerable length of time, give rise also to grave constitutional troubles, and deranged general health.

The disease is characterized by an inflamed appearance of the conjunctiva covering the lids, and the presence of granular prominences in greater or less numbers. These prominences are in some cases but slightly elevated above the level of the conjunctiva; in others, they are so much raised as to give rise to the sensation of foreign bodies between the lid and globe of the eye. Very vascular, the prominences bleed often, and this circumstance is attended with a mitigation, for the time, of suffering. The prominences are supposed to be the villi, or papillæ of the conjunctiva, hypertrophied from inflammation, and when magnified, often present fungiform vegetation sprouting from their apices. These granules—really miniature warts—rubbing against the cornea, keep this portion of the eye in a constant state of irritation. The pain is often intense, and the intolerance to light so great that the patient, with the lids nearly closed, goes about having the head bowed down in order to lessen the quantity of light admitted into the eye. The effect of the attrition between the granules and cornea is very destructive upon the latter. Vascularity and nebulosity at first obtain, the former more at the upper part; then follow thickening, opacity of the coat, and blindness.

Granular conjunctiva often follows the puro-mucous ophthalmiæ, and sometimes it arises from the mere catarrhal conjunctiva. The cases, however, that have fallen under our observation, have been caused by the contagious inflammation, or Egyptian ophthalmia, a trouble of not unfrequent occurrence in this climate.

We have premised the above remarks simply for the purpose of calling attention to our own experience in the *treatment* of the disease. A disease characterized with the inconvenience and suffering that attend granular conjunctiva, and one that so generally baffles the skill of the physician, should be regarded as worthy of the attention of every one able to shed the least light on its successful treatment. We have had no little experience in its treatment, yet we confess to having had but little success until we adopted the plan of *scarifications.* This has proved equal to the trouble in all the cases in which it has been tried. Cases of long standing, and that had resisted nitrate of silver, sulphate of zinc, sulphate of copper, local bleeding, blisters and general remedies, have commenced yielding at once by scarifications. A very bad case, for example, of several years standing was cured with one pretty thorough scarification of the lids. Such happy results, though, should not always be expected from a single operation. We have repeated it where the trouble was stubborn until the cure was accomplished.

In performing the operation the lids should be everted, and the incisions, with a blunt pointed lancet, made freely over the seat of the granulations, so as to destroy the vascular supplies, thus producing a very considerable discharge of blood.

After the scarifications, the bleeding may be promoted by warm water applied to the eyes.

We hope not to be understood as proposing this treatment of granular conjunctiva as something new. We believe in the maxim, *nil novi sub sole.* We allude to it because it has not received the prominence to which, in our judgment, it is entitled. Weeks and months, and even years, are often consumed in the use of collyria, the crayon of sulphate of copper, general remedies alterative and supporting, with but very unsatisfactory results. Suffering by such means may be mitigated, and some improvement secured.

Still, until the granulations are destroyed, no permanent amendment is very likely to take place. With, however, the destruction of these, results the most gratifying are certain and prompt.

The heroic practice we have suggested for granular conjunctiva contrasts very strongly with what is necessary or beneficial in other ophthalmæ.

American and Foreign Intelligence.

Observations on the Diseases of the Army in the Department of North Carolina.

[From the Boston Medical and Surgical Journal.]

NEWBERN, N. C., May 26, 1862.

I have spoken, in a former communication, of some of the peculiarities of army life and its diseases, as they occurred to me in Camps Stoneman and Griffin, in Washington and in Virginia. My labors in that field were abruptly closed near the end of December last, by a pretty severe attack of typhoid pneumonia, which confined me to a sick room in Philadelphia during the month of January following.

Assigned as Brigade Surgeon to the Department of North Carolina, my observations, since the latter part of February last, have been directed to the army as commanded by General Burnside, and embrace the period of nearly three months, including, in this time, three successful battles, to wit: those of Roanoke, Newbern, and Fort Macon.

On the Potomac, I was limited to the subject of land force, and particularly to that of cavalry, being confined, in fact, almost entirely to one regiment. The army here unites the naval and land forces together. Indeed, it is a peculiar organization, well adapted to attacks on fortifications near the seashore. At first there were no cavalry in the force, and Roanoke was captured without them; so was Newbern. Since that time, Captain Belger's Battery has been acting as cavalry for picket duty, and additional regiments have been added to the Department. The corps d'armée embraces, therefore, at present, nearly all the forms and weapons of modern warfare—infantry, cavalry, artillery, gunboats with their mortars, etc., all complete. It will be remembered, also, that my observations on the Potomac were made in the months of September, October, November and December; and that the spring months, March, April and May, have been the seasons of our campaign in North Carolina.

The district of country in Fairfax county, around Fort Griffin, is rolling or undulating, and, as we approach the Potomac, somewhat hilly. The land is old, and some of it in a high state of cultivation. On the other hand, the surface of the ground here at Hatteras, Roanoke Island and Newbern, and along the Southern coast generally, is flat, sandy and swampy, and well calculated to produce bilious, remittent and intermittent fevers. If, as some say,

"An ague in the spring
Is medicine for a king,"

It is my opinion that kings might get plenty of such medicine by visiting this region. An intelligent lady in Philadelphia informed me on my inquiry (she whispered it in my ear), that the climate about here was a "d—l of a climate." General Burnside and his command found this to be the fact during the months of December and January, and I can bear testimony to its very blustering character at Cape Hatteras and Roanoke during March and April.

So much for the climate. Vegetation here is, of course, luxuriant. Forest trees are chiefly of the turpentine pine; while cotton, corn, tobacco, potatoes, wheat, rye, oats, figs, grapes, peaches, apples, pears, apricots and plums, grow in abundance.

DISEASES.—The fevers which I have observed, in camp and among the inhabitants, appear to be of four kinds.

First. *Typhoid Fever.*—This pervades the shipping, both the gunboats and transports; and when not fatal, often leaves the system in great prostration, condemned to a long convalescence, which is often in danger of a relapse. The petechiæ over the abdomen and elsewhere, thought by some to be characteristic of the disease, have not been as frequently observed as I expected. The diarrhœa symptom is not universal. Congestion of the lungs is very common, and sudden deaths from enteric hæmorrhages, during apparent convalescence, have frequently surprised and astonished the attendant surgeons. The typhoid tendency, as it is denominated, masking other diseases "with the pale cast" of its insidious poison, is a very general condition, and many poor fellows, who clung to the shrouds at Hatteras, and were buffeted so long by its merciless storms, who afterwards braved the fight at Roanoke, and rose from the bed of languor to contest the hard-won battle at Newbern, have since been in a more or less typhoidal condition. Some of them, on being wounded, were unable to bear the wear and tear of a long convalescence, and are deposited at Roanoke, while others have died at Newbern, and still others have been enabled to recruit by returning for a few weeks to the pure air of their homes, and the cheerful comforts of their own firesides.

Second. *Typhus Fever.*—This form of disease has been not unfrequent, and some cases, both on Roanoke and at Newbern, have exhibited a malignancy truly appalling. The cases in which I have remarked this more particularly, have been stout, fleshy young men, who have sunk into a state of absolute decomposition in a few hours. I remember one case, which was brought into one of my hospitals at Roanoke, where the cellular tissue, at the base of the neck, was filled with air and serum, and the skin of the feet and legs up to the knees was purple; the boy was pulseless, stertorous and insensible when he first came into the hospital. I have seen a few cases of the same kind in Newbern.

Third. *Bilious Remittent.*—This I believe to be at present the prevailing type of our diseases. Jaundice during life, with other symptoms of the disorder, and a diseased liver found on a *post mortem*, are some of the proofs which may be adduced. Indeed, Dr. Tull, of this city, who has practiced here for more than twenty years, informs me that that is the prevailing type of the diseases of the district. Frequent symptoms of biliousness, which the officers and men exhibit, together with the marked beneficial effects of calomel, also indicate this tendency.

Fourth. We have pure cases of *Intermittent Fever*, which are usually controlled by the common anti-periodic remedies.

I have thus indicated the four different forms of fever which appear to be prevalent among our troops at the present time. The mortality from these fevers has not as yet been accurately calculated, but I am under the impression that it is not large. The liberality of the General in allowing his men to return home for a short time when sick or wounded, has a beneficial effect upon those who remain; while the well-ventilated and cleanly hospitals, good nursing and abundant supply of the sick man's comforts, save many lives which would otherwise be lost.

I have spoken thus far chiefly of fevers as the diseases of the camps. We have also a good many cases of rheumatism, and a few cases of diarrhœa and dysentery, which may be denominated "camp diseases." The apparent breaking down of the constitutions of young men from the New England States, especially where there was a tendency to pulmonary disease, is a phenomenon which has surprised and grieved me. Many of these young men are from rural districts, farmers' sons, and suffer doubtless, privately, from nostalgia. The undeveloped condition of the system, with some private vices, may be adduced as additional causes of this breaking down.

TREATMENT OF FEVERS.—There has been no one treatment adopted generally for typhus and typhoid fevers in this division. The expectant and stimulant have been the most common. The surgeons have relied chiefly upon what the ancients call the *naturales;* the use of whisky punch, carbonate of ammonia, or turpentine—very little, however, of the two latter articles. Eberle's strong recommendations of the carbonate of ammonia seem to have been forgotten, and "Wood on turpentine" has been left to the mercy of caricaturing students in the halls of the "oldest medical institution" in the United States. The profession in the army, here, seem to be entirely at sea, no two of them appearing to agree on any plan of treatment. They appear to be like the Parisian philosophers, who anxiously inquired of Franklin what religion he professed, and found, much to their satisfaction, that he professed none. I have felt much dissatisfaction with this condition of practice, and have requested one of my colleagues to try, in some cases of pulmonary and cerebral congestion, *feelingly*, the now exploded lancet. His reports, thus far, have been favorable. In some cases of stupor and cerebral congestion, I have suggested the resort to one or two large doses of calomel, followed by Dover's powders and whisky punch. These cases have done well also; and lastly, at my request, the calomel and quinine practice, ten and ten, has been resorted to where bilious remittent symptoms predominated at the beginning. This treatment seems still to hold its own in this district among the resident practitioners.

I remember well when Dr. Parry from the valley of the Mississippi, many years ago, then a student in the Jefferson Medical College, threw a bomb shell into the profession in Philadelphia, by reading his thesis before the Medical Society, and quietly asking "what shall I do with the pulseless, moribund cases of congestive fever of the Mississippi?" Prof. Meigs, in his usual enthusiastic and fanciful style, recommended "the lancet—the lancet—the lancet!" It, he said, would relieve the overloaded internal organs; it would take the weight from off the nervous centres; it would allow the *endangium* to produce healthy blood. In a word, if the patient died, like that of the pupil of Dr. Sangrado, it would be for want of bleeding! Dr. Wood was astonished and dismayed at the doctrine, and, assisted by the brilliant but eccentric Jackson, both of the University, castigated the professor of the Jefferson Medical College most unmercifully. Professor Wood did not approve of bleeding at all, except in rare cases, and "would treat the case according to circumstances." Professor Jackson gave a brilliant dissertation, which lasted part of two sessions of the Society, on the then newly-published cell theory of Schwan and Schleiden, while Dr. Parry stated the western practice to be, in some cases, large doses of calomel, in others large doses of quinine, while others combined the quinine and calomel practice in one. Professor J. K. Mitchell took hold of this practice at once, enforcing it with his usual eloquence and point, and illustrating it in public and private practice during the rest of his life.

According to my observation, the same diseases exist on the southern coast of North Carolina, as those mentioned by Dr. Parry. Now what shall be our treatment? Will the profession of New England tell us what we shall do? Shall we use turpentine with Wood, calomel and quinine with Mitchell, or the lancet with Meigs and Rush? The hardships of the winter campaign at Hatteras, Roanoke and Newbern, have battered many of our men to a condition at least as low as that of the natives and negroes. Shall we fear this real or apparent prostration, and shun the lancet—the almost universal practice over our country for some time past? Shall we forget Hamilton's eulogies of cathartics? Shall we attempt to destroy the malarious poison in the blood by immense doses of quinine? Shall we stimulate with carbonate of ammonia, or piddle along with the turpentine emulsion? or shall we, in the language of one of our surgeons, "sock into our patients large doses of whiskey punch?" Or what shall we do?

In surgical practice, we are taught "*anceps remedium melius quam nullum.*" Is the lancet that doubtful remedy? Or is it right to see our patients die from the very beginning of the disease, without attempting to do something for their relief?

Respectfully your obedient servant,

James Bryan,

Brigade Surgeon, Burnside's Expedition.

We are kindly permitted by the Surgeon-General, to print the following from the report of Dr. Sargent, recently returned from Virginia:

Worcester, June 6, 1862.

To the Surgeon-General:

Sir,—I reached home this morning, after arduous service in the care of seven hundred and fifty wounded men from White House to Yorktown and Annapolis; and I lose no time in reporting to you.

I wrote you last from White House, giving you the names and regiments of the Massachusetts men sick there. On Wednesday, the 28th May, we made a second tour of the Field Hospital at White House (Dr. Mack, Dr. Thorndike and myself), and found all our surgeons hard at work, and were glad to see the results of their work; for the thirteen or fourteen hundred sick there (the number is constantly varying by arrivals and departures) were left to their care alone, the Brigade Surgeon (Dr. Baxter) and his assistant being occupied exclusively in general business. The tents were mostly floored, and the comfort and condition of the patients much improved. And yet the number of medical attendants was not sufficient for any record whatever to be kept of diseases or of treatment—the name, and the arrival and departure, alone appearing on the register.

On Thursday, May 29th, having previously made arrangements with Dr. Tripler that we should be telegraphed for, in case of need, we took the boat to Yorktown, where, as my former report stated, eleven of our surgeons had been ordered to report. Dr. Wheaton, of Providence, R. I., is Medical Director here, and is a man of a great deal of experience and efficiency in the army, having served as assistant surgeon in the war of 1812–15, and as surgeon throughout the Mexican war, besides having served in this war from the beginning. He treated us with a great deal of politeness, professional and social. There were about sixteen hundred sick at Yorktown, many in houses, though many also in barrack hospitals and some in tents. The great majority here were sick with typhoid fever; and the aggregate aspect of so many sick with one disease is picturesque in a most extraordinary manner. Of all this number, there were only ten or twelve patients from

Massachusetts. We were at Yorktown from Thursday noon to Saturday afternoon, when we took the boat for Fortress Monroe, arriving at evening.

On Sunday morning, June 1st, immediately after breakfast, Dr. Cuyler brought me a despatch, sent from White House through Dr. Wheaton at Yorktown, "directing Drs. Sargent, Mack and Thorndike to proceed to White House immediately." So we took the boat which was just ready to start, and returned to White House, arriving at about 5½ P. M. Reporting at once to Dr. Tripler's quarters, we were met by Dr. Smith, Surgeon-General of Pennsylvania, who told me that the despatch had issued from him, and that he wished us all to go on board the Commodore immediately, and help take care of some wounded men from the battle then just closed near Richmond. We went in at once, and were soon swung into the stream, where we lay until morning, rendering every assistance in our power. In the morning, Dr. Van Tagen, the surgeon in charge, showed me a despatch he had just received, ordering him to leave one hundred and fifty of the wounded men at Yorktown, and take the rest to Annapolis. Stopping at Yorktown again on our way, we found that Dr. Wheaton had received large accessions to his number of patients, so that he had been obliged to pitch one hundred and fifty hospital tents. Of the patients whom we left there, thirty-nine were North Carolina troops, prisoners.

We arrived at Annapolis Tuesday morning, the 3d, and were occupied most of the day in discharging our patients. Tuesday evening we went to Baltimore. On Wednesday we went to New York, where we parted yesterday, Dr. Mack remaining for a day in New York, Dr. Thorndike going home by the Fall River route, and I by the Norwich.

Such is a current history of our mission and service. Few men ever worked harder than we did between White House and Annapolis. The patients were mostly of Pennsylvania and New York regiments.

I think it may not be without interest to you that I add something in the way of review. * * * * * *

Of the large number of sick and disabled on the Peninsula, the cases of fever, dysentery, rheumatism and scurvy are incidental to the necessary exposures of the siege before Yorktown. But the number of cases of disability which existed before that siege, and many of which should have been foreseen and prevented at the time of enlistment, is extraordinary. Persons are enlisted who are over age and who are under age; feeble old men of sixty, and feeble boys of sixteen. At White House I found two old Germans from Boston, each between fifty and sixty years of age, laid up together (possibly for company), and one of them with asthma. This man had not been able to march with his regiment for weeks, and had been waiting for his discharge papers since April 9th. He was inspected and passed by a Boston physician. The cases, I understand, are not very rare in which persons with some disability pass inspection in one city, get pay and secure bounty, are put on the sick list, procure their discharge, and then go to another city to go through with the same process over again. Fathers and sons enlist together, and are laid up together, as a matter of business. Dr. Tripler told me that epileptics were enlisted, and that he even found one man deaf and dumb—though, he said, he believed he was only enlisted to cook. Yet here, even, there was obvious inconvenience. Now, when we consider that every soldier costs the United States not less than five hundred dollars a year, it is clear that it would be worth while to exercise more care in the enlistment, paying competent inspectors price enough to support them in rejecting men, instead of leaving this important work to the gratuitous service of chance physicians.

Also, we have now got to where our medical staff is not sufficiently numerous, under the accumulation of sick and wounded. I am afraid, also, that it is not always competent; though of this I have no absolute personal knowledge, Two assistant surgeons to a regiment would now be much better than one. "Contract surgeons" have rather an indefinite position, and are not likely to remain long enough to acquire such experience as to make them useful in the service. Volunteer surgeons—and in this category I place myself and my immediate colleagues—must present themselves with great discretion not to produce dissatisfaction. They are looked upon rather as an anomaly and an inconvenience, and may possibly be suspected of presumption and self-sufficiency. I saw nothing whatever of this in the treatment of us; and we were careful to appear constantly as ambassadors, and, in some manner, an escort to the medical gentlemen whom we introduced; while we also offered our services in any manner whatever. * * * If I had known that the Massachusetts 22d was then without surgeon or assistant, I should have offered myself at once.

In regard to hospitals, those at White House are very bad and very crowded. Those at Yorktown are much better, and Yorktown itself is high, and I presume healthy. Those at Annapolis are the best I ever saw; the fine buildings of the Naval School, chapel and all, being appropriated.

Yours truly, JOSEPH SARGENT.

Clinical Notes on Intemperance and its Prevention. By ROBERT DRUITT, M. R. C. P., London.

I have hitherto spoken of the bodily sensations which lead to intemperance; but the mental are of infinitely greater consequence. And here let me notice the most cruel and unreasonable neglect with which minor mental affections are treated. I speak not of what is formally called "insanity," but of the nervous wretchedness, the bad spirits, the dejection and groundless fears of the feeble and hypochondriacal. If a woman have a pain in the side, or a spot on the skin, her husband will immediately seek medical relief for her, though her bodily sufferings be but slight, and her mental none at all. She may be essentially as cheerful and happy as ever, spite of a little pain, which she readily bears. But let the same woman be ill in that which constitutes her very inner self; let her thoughts be gloomy, hopeless, and self-tormenting, so that her life is as miserable as if she were a prey to remorse for the most grievous crimes, and then what is done for her? Either she is despised as a fool, and told so, or she is argued with; just as if any one would entertain irrational fears if they were capable of being argued away. Or she is scolded for sinful despondency, and told that she is wicked to despair. Or she is told to drink; to have a glass of port wine when she feels low—or all these things may happen to her in turn, till, at last, the husband coming home unexpectly some day, finds his wife drunk! Christian friends then wonder how a lady could so degrade herself; all the blame is laid on the victim's head, and not one word said about those who have so cruelly neglected her, through utter ignorance of mental physiology, and blindness to the things going on under their eyes.

A man lately brought his wife to me, saying, "Really, sir, I don't know if it is of any use to ask you to see her; there is absolutely nothing the matter with her, but she is such a fool. She is moping and crying all day, with nothing on earth to cry about. She has every comfort that a woman can have, and yet is never happy, though I keep telling her how wicked and foolish she is."

I once saw a lady who had been found out in a drunken fit. Her relatives were sent for. Her mother and an aunt came; the former thrashed her with her fists; the latter pounded her with texts of Scripture, such as, "The wicked shall be turned into hell," and about "a lake of fire reserved for liars and drunkards," etc., and this to a poor wretch, who fled to the gin bottle for relief from inward misery that was uncared for by those about her, and so timid, as she told me, that she had scarcely courage to give an order to her own maid. From what I have seen of the secret solitary drinkers, it is in vain to attempt to terrify them with notions of punishment, present or future; there is no state that they can conceive of more wretched than that which exists within them, and for which they seek a short respite in drunkenness.

Mental suffering is far worse to bear than bodily, and it is almost as common, especially amongst the educated classes. It is really the source of that disposition on the part of educated and refined persons to encourage quacks, of which regular practitioners complain. When regular practitioners cease to utter the formula, "Madam, I assure you your complaints are purely nervous," and with that formula to dismiss the case as unworthy of notice, then they will have a right to complain that their patient seeks from a quack the solace which they will not stoop to administer.

Of the forms of mental suffering, short of what is called "insanity," yet frightfully common, more distressing than any bodily illness, more incurable, and most pernicious—in tempting women to drink, I have already mentioned *nervousness*. The best description of it was given by Charles Lamb. "Business," he says, "which I once used to enter upon with some degree of alacrity, now wearies, affrights, and perplexes me. I fancy all sorts of discouragements, and am ready to give up an occupation which gives me bread, from a harassing conceit of incapacity. The slightest commission given me by a friend, or any small duty which I have to perform for myself, as giving orders to a tradesman, haunts me as a labor impossible to be got through." To the mental are added bodily symptoms of the same sort, as the shaking hand and unsteady sight. These symptoms may be caused by bodily weakness alone, by worry of mind, by use of narcotics, and more especially of alcohol, by green tea, and equally by too much sleep. The hours during which they are most tormenting, are between early morning and the mid-day meal. The difficulty in relieving them arises from the difficulty of coercing a feeble stomach, reeking with the dregs of yesterday's mal-assimilation, to receive and digest food early in the day. Hence, wine and spirits are fatally tempting. Of this again, when I speak of treatment.

Whoever lives without risk of suicide, has passing through his brain during waking hours an easily flowing succession of thoughts, the result of which is a comfortable degree of self-reliance, self-satisfaction, and self-respect. But illness, anxiety of mind, and self-reproach at misfortunes unavoidable or not, may enfeeble the brain, and produce a train of thought which is positively painful, and requires effort to bear patiently. They next enfeeble those powers by which we distinguish between matter of fact and matter of imagination. There is many a case of ill-nourished brain seen in daily practice, between which and melancholia the line of demarcation is not well marked.

In May, 1854, a medical friend called on me, bringing with him the last volume of the Medico-Chirurgical Transactions, which he opened, and asked me to look at a paper by Dr. S. W. J. Merriman "On Inversion of the Womb." He looked as wretched as possible, and told me that a very important patient of his, whom he had recently attended, and whose good word was of the highest consequence, had met with this accident, and that he was afraid to reveal it, but that out it must come soon, and that the patient would die and himself be ruined. Of course I condoled with him, and asked particulars. But the odd thing was that I could get no particulars; the inversion had been taken for granted. So I advised my friend, instead of going and confessing to the husband, to take an opportunity of examining the patient, to find whether the womb were really inverted or no. He did so, and found that he had been disquieting himself about a mere fiction of the imagination. He had been suffering from loss of rest, irregular meals, and great anxiety of mind, and had got his brain into so feeble a state that it was enslaved by an hallucination. Rest, good living, and wine speedily cured him; but it is a singular fact, that two years later he got the same crotchet into his head respecting another patient about whom he had been much harassed.

This case may be an example of the morbid fancies which haunt the brain of the wretched hypochondriac, unable to weigh and dismiss them with a clear judgment. The commonest is the notion that other persons' words and actions are intentionally offensive. In such cases, whether the evil be great or little, alcoholic liquids strengthen the judgment, change the current of thought and render it agreeable, beget a comfortable sense of self-respect, and enable the patient to bear his woes. Hence, the use of them may be, first, a dangerous remedy; next, an inveterate aggravation of the original malady.

The process by which *grief* leads to drinking is short and easy as the path to Avernus. There is no doubt but that grief—the condition caused by the news of some great calamity—produces effects on the brain of a physical character. The sufferer feels a sudden rush of blood to the head; a faintness; a dull pain; a sense as if the head would burst and the eyes start from their sockets; a stunned feeling, followed by a soreness; and inability to control the thoughts, which roll round and round in one distressing circle, without the power to dismiss them and entertain others. Between a man who receives shocking news and one who receives a blow from a stick, there is this difference, the physical injury is over at once; the mental persists and may grow in virulence. To the mental torture is soon superadded bodily illness; and the effects of grief which I have seen have been in one of these forms.

There may be, first, the effects of exhaustion—of the great wear and tear of the brain. This was well described to me some time ago by a widow. Intense occupation in nursing a sick husband had ceased suddenly with his death. "When the house is shut at night," she said, "and everything quiet around me, then my sad thoughts come pouring down upon me, and go on, round and round, and over and over again. After a time, as I lie tossing about, a most horrible faint sinking comes over me, as if my heart and inside were clean gone, and I was sinking into the earth, bed and all. Then I must have brandy. I get out and take it, and sleep and feel better; if I do not, I am good for nothing the next day."

The second effect of grief is shown in those disorders of the blood which seem to result from admixture with it of organic matter, the result of nervous wear and tear. The usual symptom is sick headache; stunning headache, with vomiting of bile, or of acid stuff, or both, and large elimination of uric acid by the kidneys. Boils notoriously may be induced by grief; so may gout. I once was told by a man that a fit of vexation from disappointed love had settled in his nose and produced carbuncle there. It was quite true. There is much reason, too, for believing that grief may conduce to cancer.

Thirdly, there are more or less permanent disorders of the nervous system. There is a form of hysteria in which pains are, as vulgarly said, "similated." I recollect seeing a young lady bathed in tears, and complaining of violent pain in the side. She expanded her chest in such a way as to show that the cause of pain was not seated in the side; but the mind was deeply wounded; she was ill; sympathy was a necessity to her; the pain was but a reflex effect of a broken heart. This, as I humbly conceive, is the key to the obstinate, inscrutable, and apparently utterly abnormal pains and local complaints of hysteric young women. As a sailor will feel pain in the legs which were cut off years ago, as disease of the nervous centres may cause pain in the extreme nervous branches, so a mind deeply wounded, especially with a grief that must be hidden, produces some outward local pain.

Hence the obstinate pain in the knee, or ankle, or spine, the spasms, and other symptoms of severe hysteria. I have seen cases, from long-hidden grief, of utter fatal atrophy of body and imbecility of mind; such patients might have been saved by a greater use of wine, under medical direction; but yet might probably have become confirmed intemperates. Many a man lives as an intemperate, who, but for alcohol, would have died. In counting up the evils of alcohol, it is but fair to subtract from them those which it finds and alleviates.

Grief fills the mind with images which are positively noisome. *Stagnation*, in which the mind is simply not supplied by any images at all, is as bad or worse. Such is the condition of persons of middle age who have lost hope; whose schemes of life are blighted; who have failed in their calling, and are too old to choose another. Such are the physicians at sixty who hate the profession, and wish they had gone to the bar; such the barristers who "always felt that they had a taste for physic;" and the soldiers who say that the service is clearly going to the devil, and that only incompetent fools get promotion. Such are, too, many of the inmates of almshouses, refuges, and colleges for decayed professional men or their widows. Such are many of the single women of limited income who live in those protestant convents, the boarding-houses that abound in the suburbs of London. Such are the shepherds in the Australian bush, who, after months of monotony, must go and get drunk, to save their lives by a little excitement.

Of the effects of anxiety of mind, the following may be an example. A patient writes: "I received intelligence which caused me intense anxiety, which lasted several days. Absorbed though I was, I could not help noticing my bodily sensations. After a fit of more anxious musing than usual, I had such singing in my ears, giddiness, etc., feeling as if all my flesh was asleep. My feet felt partly as if they had 'pins and needles,' and partly as if there were wool inside the soles of my feet. And such a craving for food and drink!"

But there are certain perturbed states of the nervous system which directly lead to drinking, and which seem not to be engendered by outward circumstances, but by some congenital defect in the original formation or in the development of the nervous system.

Such are the cases which may be called "primary hysteria," and (with certain reservations) "moral insanity." There are young persons of either sex, whose nervous system is in such a state that the ordinary occupations and surroundings which give happiness to others, give none to them. They are wretched and dissatisfied, and seek for some additional means of excitement. That excitement is found in two modes—in tormenting others, and indulging themselves. There are children who from tender age do the most malicious and mischievous acts, merely to gratify themselves. Such was a young lady who, when on a visit, hid the dressing-case of another visitor; such are the girls who set fire to houses; and others, of whom a good example may be cited—the unfortunate and notorious girl to whom the name of the "Female Jesuit" was ignorantly and slanderously given, and whose history was published with ludicrous simplicity by a miserable preacher upon whom she had quartered herself, and whom she deluded and tormented for months. Not long ago, I was consulted about a young lady, rich and good-looking, but restless, always craving for excitement; able to have almost every indulgence that money could procure, and to travel wherever she liked, yet secretly a drinker.

Here I must stop for the present. Let me sum up by saying, that as of bodily ailments, so of the minor mental perturbations met with in common life, there is a vast amount whose natural tendency is to seduce into intemperate habits, because alcoholic liquors give temporary relief. Such mental ailments are too often treated by scolding, argument, or *le prêche.* They ought to receive the most refined and careful medical attention; and if they did, many a case of suicide, insanity and drunkenness would be prevented.—*Med. Times and Gazette.*

The Domain of Medical Police. (Abstract of a Paper read before the New York Sanitary Association, February 6, 1862.) By Louis Elsberg, M.A., M.D.

[Note.—The following sketch accomplished, it is believed, some little good by presenting at one view the extensive, and in this country hitherto but little cultivated, field of Medical Police. It is published with the hope of extending its usefulness *pro bono publico.* It must be looked upon but as a "Bird's-Eye View" of a Domain to the extent or details of which the writer has contributed scarce anything. In some introductory remarks it was stated: "The general survey—though hastily and imperfectly performed, without many claims to originality or profundity, and prepared under the pressure of other duties—is intended to furnish *systematic headings* for the various questions that arise; *shelves,* as it were, upon which you might arrange your knowledge in systematic order; and if the attempt prove a failure, I shall find consolation in view of the vastness and intricacy of the inquiry. Exhausting nothing, I intend to touch upon many things. I shall often but indicate the various points for consideration without 'passing judgment,' and again, state conclusions without giving the course of reasoning by which they have been arrived at, or the arguments by which they might be sustained. I intend, briefly, to run over the volume as it were before us, *not* in its separate pages, but by its preface and table of contents."]

Medical Police—*politia medica*—is an institution necessary to the security and perpetuity of society; a necessity resulting, indeed, from the very constitution of society. It is an integral part of State polity. To obtain a just idea of its nature, objects and limitations, it is requisite to seek primarily clear notions on police in general.

The word *police* is derived from the Greek *politeia,* which Anson defines: the relation in which a citizen stands to a State; the condition and right of a citizen; and again: the life and business of a statesman; hence, government and administration. It is employed to designate those regulations and institutions of a State, a city, or a country district, which have for their object, to secure the maintenance of its internal peace, good order, safety, comfort, cleanliness and health. It is also applied to the body of men or the "civil force" by which the police regulations are executed and enforced.* In contradistinction to courts of law and justice, it has been said by Schürmeyer,† that the latter are concerned only with illegal human actions, while police is concerned principally with interference with the rights of citizens from force of external circumstances and with enforcement of the laws. A paragraph in the Act of the Legislature of our State, passed April 10, 1860, in reference to the Metropolitan Police (though it contains some points irrevalent to our purpose), defines the duties of Police so fully that I quote it entire. "It is hereby made the duty of the Metropolitan police force, at all times of the day and night within the said Metropolitan police district, and the members thereof are accordingly hereby thereunto empowered, to specially preserve the public peace, prevent crime, detect and arrest offenders, suppress riots and insurrections, protect the rights of persons and of property, guard the public health, preserve order at every primary and public election, remove nuisances existing in public streets, roads, places and by-ways, repress and restrain disorderly houses and houses of ill fame; to arrest all street beggars and mendicants; to provide a proper police attendance at every fire, in order that thereby the fireman, fire-engines (persons) and property exposed may be suitably assisted and protected; assist, advise and protect emigrants, strangers and travelers in public streets, or at steamboat and ship landings, and railway stations; enforce every law relating to the suppression and punishment of crime, or to the observance of Sunday, or regarding pawnbrokers or mock auctions, or emigrations or elections, or gambling, or intemperance, or lotteries, or lottery policys, or vagrants, or disorderly persons, or the public health, or any ordinance or resolution of common councils, or town or village authorities within the said district, applicable to police, health, or criminal procedure."*

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* See Blackstone, Bouvier, Webster, Worcester; also, David Booth's Analytical Dictionary of the English Language, London, 1836.

† Handbuch der Medizinischen Policei, Erlangen, 1856.

It is interesting to know that precisely the same language is used in the Act of the "Congress of the United States," passed August 6, 1861, "to create a Metropolitan Police District of Columbia, and to establish a police therefor."†

According to Mohl,‡ Police embraces all the various measures and institutions which, by the exercise of the general powers of the community, aim to prevent or remove those external influences that interfere with the lawful actions, enjoyments, and possessions of individuals, which the individual cannot wholly or satisfactorily prevent or remove, without a violation of the rights of others or a disturbance of the peace of the community.

From this we may paraphrase the definition: Police is that exercise of the general supreme power of a community which tends to make inoperative the causes interfering with the rights of the individual, and which he cannot remove without a violation of the rights of others, or of the peace of the community. The science of Police is the systematically arranged knowledge of the various means used for this purpose, and of the principles on which they are instituted and the purpose effected; and indicates what authorities must exist, how they should be organized, and what programme of business they should follow.

In the discharge of its duties, the police occasionally encounters conflicting interests; and as the objection has often been made to the institution of *medical* police, that it would interfere with personal rights, the subject of compulsion may perhaps at this stage of our inquiry profitably engage our passing attention.

The right and duty of the police to employ force when necessary can, in general, not be doubted. The only question that can arise is: Can the benefits of a particular institution be fully realized by one individual, whether or not another avail himself thereof, or are its beneficial results lost to the entire public, unless each individual in the community conform to it? If the former be the case, compulsion is both wrong and inexpedient, for we may admit no one can well be compelled to accept benefits designed only for his own good, or to protect only his own person or property. Neither can it be left, however, to the will or caprice of an individual, or even of many individuals, whether or not the remainder of the community shall enjoy certain valuable and necessary protection or not; and it is a principle, universally admitted by jurists and publicists, I believe, that the will, necessities, or rights of individuals can never stand in the way of the rights, necessities or will of the community.

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* Laws of New York, 1860, ch. 259, § 29.

† Statutes at large and Treaties of the United States of America, 37th Congress, 1861, chap. 62, section 5th.

‡ Die Policeiwissenschaft nach den Grundsatzen des Rechtsstaates, Tubingen, 1844.

The limits of compulsion depend principally upon the resistance; and the means of compulsion upon the nature and importance of the protective institution to be established. The more important and indispensable to the community the object to be attained is, the greater may be the force, amounting, according to circumstances, to loss of privileges, property, liberty, and even life; and all these elementary principles are justly applicable to regulations for the protection of public health.

As far as police is concerned with the physical condition (and especially the health) of the community, it will be seen on a moment's consideration that, in order to attain its object, it requires the possession of medico-physical *knowledge;* and in view of our previous remarks on police in general, we may now define "Medical Police" to be that science which teaches the application of every branch of medical knowledge—or more widely still, of physical knowledge—to the purposes of police.

Medicine bears to police, as medical police, a somewhat similar relation as it bears to law as medical jurisprudence. And the difference, too, between the latter or legal medicine, *medicina forensis*, and *politia medica* is exactly that between law and police. Both, medical police and medical jurisprudence, are embraced in the term State medicine, *medicina publica* or *medicina politico-forensis.*

The *domain* of medical police admits of a division into three departments: (1.) Preservation of Public Health; (2.) Removal of Disease; (3.) Administration of Medical Affairs. These three divisions link, at many points, however, closely into each other. The first embraces not only the maintenance, but also the promotion or improvement of the existing sanitary condition of the community, primarily therefore the exclusion of the causes of disease; the second includes the re-establishment of the perturbed state of public health, specially therefore the cure of diseases; while the third embraces the totality of the various laws, regulations, and institutions referring to medicine.

A system of administrative medicine can be established for a community only after long experience of the proper working of a medical police, and though required by us in order to define the sphere of action of the public health officers, I can at this moment only say, on this head, that the provisions of the Metropolitan Health Bill, emanating from this Association, and now before our Legislature, form, in my estimation, the foundation and outlines of a system which, properly followed up by officials and the medical profession, and extended to medical jurisprudence, gives a reasonable hope that the entire regulation of medical affairs among us will gradually but surely become what it should be.

As to the second division, *i. e.*, the Cure of Diseases, it is plainly the duty of the State, *i. e.*, of medical police, to take care that the conditions be not wanting requisite for the restoration of public health. It must ensure, therefore, the existence of the necessary means of cure for the *optional* employment of the individuals, referring both to authorized persons and to drugs, pure and in good order. Besides ensuring this supply for optional use, the community must, in all cases where either from poverty or from other personal and local circumstances the sick individual is incapable of providing himself with the remedial aid he needs, assume to do this also for him. Furthermore, it is its duty in epidemics, to publish, as far as expedient and practicable, for the instruction and benefit of the public, any dietetic or other rules of regimen which may be instrumental in alleviating the disease.

The particulars of this division of medical police do not, it is true, fall within the scope of this Association, but, for the sake of completeness, I crave your attention to a brief enumeration:

(1.) To have a competent medical *personnel*, the community requires institutions for its education, and it is the duty of the State to charter, and through the medical police surveil these with solicitous care. It should regulate the admission of students, require a standard of preliminary knowledge, prescribe and facilitate their course of study, and test their competency before licensing to practice. In licensing, specialties, as that of midwives, dentists, oculists, etc., must not be overlooked. The question of the expediency of establishing a tariff of fees, either for private or public services, or both, reclaimable by law, might arise; and certainly that of transgression of license and suppression of quackery must claim attention.

Instruction of nurses or other attendants and assistants, might also become a subject for consideration.

(2.) The care for proper remedial *matériel* involves licensing of apothecaries, regulation of the sale of poisonous and secret or patent remedies, and inspection of drugs, medicines, and perhaps also of surgical instruments. The question of establishing here, too, a tariff of prices, with limitations if necessary, might also be considered.

(3.) During the prevalence of an epidemic it would be the duty of the medical police to make any extra provision for the treatment of the sick, necessitated by the circumstances.

(4.) Whenever a sick individual is supplied with the aid he requires without its assistance, medical police must not interfere, but it is its duty to procure proper medical and other attendance, and provisions when, from any cause whatever, the sick cannot otherwise be provided for.

[For the care of these sick, the following means may be used: (*a.*) General public hospitals; (*b.*) Special hospitals or institutions for the relief of particular maladies, as asylums for the insane, the imbecile, the blind, the deaf and dumb, invalid houses or hospitals for incurables, women's hospitals, children's hospitals, orthopedic institutions, etc.; (*c.*) Dispensaries, or places to which the needy sick can go for advice and medicines; and (*d.*) Dispensary outdoor departments, with their district physicians, or physicians for the poor, specially employed by the medical police authorities to visit the sick at their homes.

Either of these means may be partly or wholly supplied by private charity, but medical police must, whenever necessary, encourage or assist their establishment, or else establish them itself; and in all cases it must exercise over them a certain supervision.]

(5.) It is the duty of medical police to prevent the interment of persons only apparently dead. (That persons *have* been buried while really alive, there can be no doubt.) Certificates from physicians, special inspection and investigation before granting permission for burial, and the keeping of all bodies for a certain length of time in dead houses, before interring them, are among the precautions to be considered. (The duties of coroners are closely related to this subject.)

(6.) Provisions for rescue in apparent death, and from accidents, fall also within the sphere of duty of medical police. Wherever deemed necessary, therefore, it should provide both means and instruction as to the popular and immediate aid to be given to the drowned, frozen, strangled and suffocated; to persons fallen from heights, or bitten by suspected dogs, cats, etc., or poisoned in any way, or scalded or burnt; to the asphyxiated, from intoxication, foreign bodies in the air-passages, etc., etc.

We now come to the consideration of what I made the first division, *i. e.*, "The Preservation of Public Health," which forms, PAR EXCELLENCE, the domain of medical, or, as it is (in this connection) also called, *Sanitary* Police.

The most important and fertile source of *effective public hygiene* is thorough, minute, and extensive SCIENTIFIC OBSERVATION of the *sanitary condition* of the community, and the *causes* influencing it. That such observations, or, in other words, *skilled sanitary inspections*, can be made only by persons of a medical education—that private physicians cannot make them extensively and continuedly enough for the purpose, and that they require specially appointed *health officers*, surely is too evident to every intelligent person to require much elucidation.

Let any one but *consider* (even if ever so superficially) what duties such inspection involves. It must embrace the whole manner—the *tout-ensemble*—of a man's life and his relation to all natural and artificial agencies affecting health. It must yield scientific STATISTICAL, CHEMICAL, MICROSCOPICAL and TECHNOLOGICAL results for sanitary purposes. It requires a health officer to prepare, and keep corrected, a SANITARY MAP, (of the district alloted to his inspection,) showing the grade, width and condition of the streets, the sewers, the soil; the vacant lots and buildings, and a SANITARY REGISTER, showing the number and condition of the inhabitants; not only the deaths, but also the diseases occurring in each locality, with meteorological, barometric and thermometric records, as well as occasional chemical and microscopical analyses of the air and dinking water of a particular locality, of particular articles of food, etc. I do not mean to say that every *medical man* is fit for such inspection, but that none except a person of a *medical education* IS! A health officer, besides making the ordinary medical studies, must pay *particular attention* to the causation, eradication and prevention of disease. And here allow me for a moment to enter into an explanation of the *term* "disease." Although it is convenient in description and discussion to speak of disease as an entity, all educated physicians (if not, indeed, all educated persons,) are well aware that what is so designated, has really *no* personal or ontological character, but is only a condition, and may be defined "a *perversion* either of the functions or of the structure of the body, or of any of its parts." It is, in other words, "a deviation from the normal physiological state or action of the organism under the disturbing influences of morbid causes." In this respect, the positive progress of physical science enables us to stand to-day on altogether a different footing from that of our forefathers. "All pathology is but the physiology of organic perturbations."* The organism never becomes diseased by itself, nor does it ever alone become a cause of disease. Being the source of all manifestations of life, it is at the same time, also, the means of preservation of these manifestations; only that in its material constitution lies the general possibility of becoming diseased. But the realization of this possibility requires the addition of another factor, that may be called morbific—or literally, sick-making—Cause!

The morbific cause must, however, not be regarded a unit. In all cases there are really two different factors, only the co-action of which makes up a cause: producing disease as such—*i. e.*, that calls forth the phenomena giving rise to the term. But in many cases, the organism is forced, by original or acquired constitution, to act as second factor when one factor of a morbific cause has gone into operation. These factors are called, respectively, remote or predisposary, and direct or exciting cause. (One alone has also been called the cause, and the other the totality of circumstances under which it can act.)

Every man, even the healthiest, as we find him, has natural predispositions to disease; every one will, therefore, under favoring circumstances, become sick. Predispositions as well as morbific causes are very numerous and diverse. They are all of interest and importance to the practicing physician, but medical police is specially concerned with such of them only as transcend the ability of the individual to exclude. As to others than such, its province can only extend, according to circumstances, to calling attention, by appropriate instruction and warning, to the danger and the means of avoiding it; as to the former, however, it has the right and the duty to enforce regulations for their exclusion.

The branch of medicine specially concerned with the *annihilation of the causes of disease* has, during the last few years, found many ardent investigators! A *new name: Nosophthory*—literally, the science of eradicating disease—has been given to it, and it bids fair to attain the rank of honor among the medical sciences!

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* Memoranda Medica, or Note-Book of Medical Principles. By Henry Hartshorne, A.M., M.D. Philadelphia, 1860.

The SURVEY of this domain of Sanitary Police (i. e. *the exclusion of morbific causes*) may, for our present purpose, be divided into three sections, viz.: I. Total Extinction of Causes of Disease. II. Protective Measures against Contagious Diseases. III. Protective Measures against Miasmatic Diseases.

I. The total eradication of certain diseases may be considered under the two sub-heads: A. Prevention of hereditary diseases; B. Removal of injurious external influences.

A. Hereditary diseases communicated from progenitors to children, or, these going free, to children's children, "even to the third and fourth generation," are generally of such a nature that the healing art can do against them nothing, or but little. Medical police must look to the protection of a future member of the community from such serious complaints, the more as he is entirely innocent of their production, is not able in any way to anticipate, avoid, or get rid of them, and as they may, by burdening society with helpless sufferers from those scourges of the human race that ineffaceably stamp upon their victims deformity and disease, become highly prejudicial to the public weal. Among the means to meet this evil, we must first speak of restriction of such marriages as, in all human probability—for there is here no perfect certainty—will lead to the dire result.

The late Prof. Reese, in a Report on Infant Mortality to the American Medical Association, said:

"The *physical health* of both parties in every marriage contract should be regarded by each as equally important with the *moral* habits. And as marriage *is a civil contract*, the fruits of which vastly concern the public welfare (bearing, as they do, upon the present and future generation), it is the duty of the State, in every civilized and Christian country, to *surround* marriage with all the sanctions of *law*, and to *protect* the unborn *fruits* of such alliances from *premature destruction* by *statutory* enactments! These should be such as an enlightened science and philanthropy suggest, and should be encouraged and enforced by the united power of religion and law."

He then goes on to lay down: "No marriage should be permitted between parties until the physical health of both has been subjected to professional scrutiny. And such alliances should be *prohibited by law* to those of either sex who are the subjects of those diseases which are known to be hereditary or transmissible to offspring, or such as are fatal to infantile existence. Celibacy *should be required by statute* of all consumptive, scrofulous, scorbutic, gouty, insane, intemperate, and especially *syphilitic* individuals, of either sex; and this for grave reasons of State, which concern the public weal. Nor will any course, *short* of such legal prohibition of marriage, adequately correct the evil."*

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* Transactions of the American Medical Association, Philada., 1857.

Now, this is strong and positive language, just such as the talented Professor was wont to use; but it admits, in my estimation, of grave doubts whether marriage can be wholly considered a civil contract which the State has under absolute control, and the unconditional right to prohibit. Is it not rather also to be regarded a domestic institution, which the State has only the conditional right to regulate? Prohibition may conflict with the most important, most sacred, private interests and rights! Nevertheless, I too contend that there *are* cases in which all these must yield to the supreme right of society. (But those who labor to establish among us a thorough sanitary police—and this place is as good as any to lay down the general principle which I wish every friend of sanitary reform would appreciate and act on—should not go too far in their proposals and demands, lest, indeed, as Vetter says, "embracing, on the one hand, many objects of ordinary police, penetrating, on the other, into the recesses of domestic life, choosing the bride for the husband, calling upon the able-bodied for procreation to marry, and forbidding marriage to the weaker, watching the arrangement and the affairs of the household, the bringing up of our children, and the very morsel that we swallow—medical police would become a greater plague and nuisance than any it could remove, and instead of promoting the health, would only interfere with the best interests of the community.")

Marriages not capable of carrying out their object, and positively injurious to the general good, society must prohibit. Marriages not in this category, yet involving possible injurious consequences to the offspring, may be endeavored to be restrained by suitable instruction and warning, leaving it optional to the parties, according to circumstances, to enter them or not. From this stand-point the possible prohibition of the following marriages seems indicated: (1.) Marriages before the age of sexual maturity, the precise age to be fixed by law. (2.) Marriages between persons affected with diseases that will *certainly*, or with *very great probability*, be communicated to their offspring, disabling them positively, or that interfere with their mental self-consciousness and responsibility. In this class of diseases insanity and the venereal may be included. (When entirely cured, which must, however, be positively ascertained, there can of course be no reason for prohibiting the marriage any longer.) (3.) Incestuous marriages, in regard to which laws should accurately define the *various degrees of relationship* within which marriage is prohibited.

The next source of hereditary diseases is "Illegitimate Procreation." This opens for discussion the extensive chapters of prostitution, destitution or pauperism, and obscenity or voluntary offenses against decency, in which one of the first questions that must be met is, whether prostitution should by the law be ignored, or sought out and punished, or licensed and regulated. My own conviction is decidedly against both the expediency and the morality of a State's *licensing* such vice; but I concur in the suggestion of my friend, Dr. Griscom, that all prostitutes should be subjected to examination, to determine whether they are affected with venereal disease, and if found diseased, should be sent to the Island to be cured. The whole subject, however, requires grave weighing in all its relations.

B. In the "*removal of injurious external influences,*" Sanitary Police finds its most EXTENSIVE field.

Commencing with the "means for insuring undisturbed *fœtal* existence, laws and ordinances concerning pregnant women, abortion, etc., should be carefully made and stringently carried out. A *dissertation* on "the *sources* of abnormal conditions of the fœtus" formed the inaugural fruits of my medical studies; and I would refer here to my thesis presented for graduation to the Jefferson Medical College of Philadelphia, for a *résumé* of a subject that should be thoroughly investigated from the stand-point of the medical policist.

(2.) "Removal of injurious influences at the *birth* of children" comes next in order. In this connection I must add that *Lying-in Asylums* for expectant mothers, irrespective of character and civil condition (*i. e.* whether married or not), are urgently called for; but the beneficial working of *Regular Foundling Hospitals*, that have lately been so much advocated in our midst, is not so well established, and requires grave consideration.

(3.) The proper "Physical Education," as well as the "Mental," of children, especially of orphans and of poor children (who have no one else to see to it), should be carefully *superintended* by medical police.

(4.) Next we must take up the "subject of sound, wholesome, and unadulterated articles of FOOD and DRINK." For the detection of purity or the particular sophistication, some knowledge of, and manipulative dexterity in, analytical chemistry and microscopy on the part of the Health Warden, is imperatively demanded. Barely to enumerate the articles that he must examine chemically and microscopically, we may name—cereals and flour, bread, potatoes, vegetables, green and dried fruits, pickles and preserves, meats, sausages, fish, butter, cheese, sugar, confectionery, water for drinking and culinary purposes (including the important subject of aqueducts), milk, cream, coffee, tea, cocoa and chocolate, vinegar, soda-water, beer, ale and porter, wine, brandy, gin, and other alcoholic liquors, oils, salt, mustard, pepper, and other condiments, etc.

(5.) Protection against influences prejudicial to health, arising from the use of certain household utensils, colored paper, and copper and leaden vessels, etc. (It is of course understood that *absolute prohibition here,* except perhaps to some extent in public eating-houses and the like, is out of the question; still, much can be done to prevent their injurious consequences, by a proper Board of Health, and competent Health Wardens.)

(6.) Surveillance of various articles of manufacture, as toys, toilet articles, snuff, etc.

(7.) "Healthy domiciles, and surveillance of domiciliary arrangements." This is concerned with the condition of the *soil*, and position of the particular lot on which the dwelling is erected, the architecture and the building materials, the arrangements for ventilation, sewerage and drainage, the water-closets and cesspools, the introduction and diffusion of heat, light, etc., etc., with *cleanliness in* the house and out of it as its first law. Even the bare enumeration of all the subdivisions under this head would extend this essay beyond its necessary limits. This care, while *most* urgently demanded for tenement houses, with their disease-producing cellar and closet residences of whole families, and crooked and narrow streets, is applicable in many respects to houses of all classes; for instance, as to injurious wall-papers, too early moving into new houses, etc.

(8.) Clean streets, docks, yards, and public places; removal of ashes, offal, garbage, etc.; removal of all nuisances. Public parks and promenades, public baths, public necessaries, hydrants, and water-closets.

(9.) The sanitary condition of public buildings, schools, churches, courts, prisons (including of course the food, clothing, and occupation of prisoners), and other public institutions.

(10.) Removal of injurious effects of various trades, manufactures, arts, and occupations. This refers both to the injurious effects on the health of the individuals engaged in any particular business, and to its noxious influence on the health of the community in which it is carried on. Here, too, a wide field is open for public hygiene and sanitary reform. Its cultivation discloses the REMOTE CAUSES of many diseases, and refers them to evils in our civil state, many of which might *easily* be removed. I pass on without specifying the various branches of human industry, and without alluding to military, navy, and merchant ship medical police, which all belong to this division. I must, however, say that several occupations generally supposed injurious, are really, or can be made, entirely harmless with proper hygienic regulations.

(11.) "Prevention of injurious emanations to the community from its burial-grounds." This necessitates regulations for the transportation, and place and manner of interment of the dead.

(12.) Precautions against the indiscriminate sale of poisons.

(13.) Precautions against dangerous animals, to prevent hydrophobia, etc.

Precautionary measures against suicide, drunkenness, and injuries inflicted by insane persons, etc.

Precautionary measures against injuries from falling down of objects, against falling into the water, or into pits, excavations in the street, against injuries at fires, etc., and prohibition of certain imprudent acts dangerous to public health or life; and

(14.) Precautionary measures against explosions, against dangers in public conveyances, on cars and steamboats, and on ice.

Having thus rapidly run over our first section of the Domain of Sanitary Police (which embraced the total *eradication* of certain causes of disease), we may cast a few glances towards the two remaining sections—namely, the institution of Protective Measures against *contagious* and *miasmatic* diseases. We shall look at these very cursorily.

Endemic diseases depend for their production on LOCAL conditions, as geographical position, soil, climate, manner of life, drinking water, food, supply of air and light, etc.

Epidemics depend, generally, on particular conditions and foreign ingredients in the *atmosphere.*

Infectious diseases (including under this name, for the sake of convenience, *all communicable* abnormal conditions, therefore both contagious and miasmatic diseases) depend—(1.) On the communication to the organism of some material cause of a disease *(materies infectionis)*; and (2.) On the *susceptibility* of the organism—*i. e.* on its capability of becoming affected thereby so that a disease *sui generis* is the product of the infection, or communication. Without the infection on the one hand, and the susceptibility on the other, there can be no infectious disease. The best means, therefore, for protecting mankind from all *existing infectious diseases* is that which *destroys* the *susceptibility* to become affected thereby, if that can be accomplished *without* injury to health. Now, while there are indications and reasonable grounds for the hope that the unceasing progress of the physical sciences will eventually—aye, perchance very soon (for even at this moment but a few links are wanting in the chain of evidence)—satisfactorily solve this problem, *we already do possess* that means in relation to one of the most *terrible* afflictions of humanity, SMALL-POX, which formerly attacked one-half of the whole *human race,* and almost regularly either *killed* or *for life disfigured* its victims. That the protective means at our command—vaccination—is *imperatively required* by society, seems superfluous to state; and that it is the duty of medical police to use *coercion, if need be,* to APPLY IT, is (after my remarks on compulsion in the beginning of this paper) self-evident.

On the question, How *should* and *can* compulsory vaccination be *accomplished?* I hope to have at a future time the privilege of addressing you.

As to *miasmatic diseases,* it is urged that QUININE, taken during exposure to malarial influences, possesses the power of preventing them.

The endemic *cholera infantum* undoubtedly has as its causation the three elements—intense summer HEAT, the *atmosphere* of large CITIES, and the peculiar susceptibility of *infants.* (Of these, the second is, of course, most under control, by removal to the pure air of the open country.)

Again, the mode of causation of *typhus fever* appears to be placed beyond a doubt! It seems to depend, *in the first place,* upon the one *essential* cause, *Ochlesis,* or CROWD-POISON! Yet *when* shall we hear *no more* of *Jail* fever, *camp* fever, *ship* fever, and by whatever other synonyms and "aliases" typhus ravages humanity! "Wherever the excreta of human beings from their lungs and skins, as well as bowels and kidneys, *accumulate* in an unrenewed atmosphere for a considerable period, TYPHUS WILL BE produced. Then it becomes infectious: both miasmatic and contagious; *i. e.*, not only do certain *places* become tainted with it, so that all persons abiding there, are liable to it, but a *single patient* with typhus, taken to a *new neighborhood,* may generate disease in other *persons.* The excretory zymotic agent, which ordinarily requires *numerous* bodies to afford it in typhus-breeding quantity, is so *concentrated* and *dynamized* in the body of the patient, sick with the fever, as to have in it the poisoning power of a whole crowd! Thus, in typhus, the morbid poison is originated by the alteration and accumulation of matters *naturally produced in the body.* It is not so with the contagion of small-pox—the *origin* of which is not thus controllable by circumstances, in the absence of its specific cause, nor is it so with the *localized* infection of yellow fever, or the *migratory* poison-cause of cholera." What a field there is here for a proper medical police—what results can crown its labors—is obvious! A similar remark, almost, applies to endemic TYPHOID *fever*, although its causation is involved, as yet, in far greater obscurity. That it can be—and frequently is—produced by putrid exhalations of some kind, and in many instances by emanations arising from sewers, there can, however, be no doubt. It was of this disease that Prince Albert of England died!

The fertile and abused subject of *Quarantine* I must pass by. Good in its place, how bad is it out of place!

In the protection of localities, it is believed that the most desirable quarantine is a *dirt quarantine.* "Annihilate or exclude *dirt*, *i. e.*, putrefiable animal and vegetable detritus, and no *migratory* or *malignant* morbific poison can sustain its existence even if its cause be imported to the spot!" Thus it is maintained that, by sanitary reform, ALL MALIGNANT EPIDEMICS ARE PREVENTABLE; and it is interesting to know that this has been proved, even as regards plague, once the most destructive of all petstilences, and looked upon as the very *type* of *contagion!* It has now, so to speak, died out in those cities of the East to which it was formerly a *frequent visitant*, if not an endemic. Long ago it was finally excluded from all the parts of *Western Europe*, *not* by quarantine, but by improved *local* SANITARY ARRANGEMENTS! Its fountain-head, the great Oriental capital, *Cairo*, before the time of Mehemed Ali, many times lost tens of thousands of inhabitants by its visitations. From here it spread, devastating over Egypt and the world! The viceroy named, and his son, Ibrahim Pasha, (though unaware of the stupendously beneficial results of the undertaking), removed the hills between Boulâq and the mouth of the Nile, aud transformed an immense swamp in the heart of the city, and the *receptacle* of all its filth, into a park (or olive and fruit-bearing pleasure garden—the "Esbekiah"). Other local sanitary arrangements were enforced, and now CAIRO (*and with it, all humanity*) is FREE FROM PLAGUE!*

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* See the subject of *Etiology*, Hartshorne's Memoranda Medica, Philadelphia, 1860.

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In conclusion, let me repeat five words, which we can never too often reiterate in the ears of the public and of our Legislature—five words of *Truth!* and *Hope!!* and *Charity!!!*

"*All malignant epidemics are preventable.*" "By attention to the laws of public and domestic hygiene, all malignant epidemics are preventable." This truth must become the gospel text of the Evangelists of Sanitary Reform! Promulgated through all the avenues to the public mind, every civilized community must appreciate its import, and would soon, by appropriate sanitary measures, realize some of its promises!

"All malignant epidemics are preventable," AND CAN BE PREVENTED by attention to the laws of hygiene, which it is the object of *this Association* to have systemized and acted upon in the Metropolitan Health District! SHALL *they ever be prevented among us?*

Well did the Sanitary Committee of our Board of Health for 1849, say: "To no other work should the authorities address themselves more earnestly than the establishment of a *thoroughly organized medical police.* * * * The *advantages* of such a measure would be *incalculable.*"

Well did the State Senate Select Committee, in 1859, say: "Preventive Medicine, rising rapidly to the perfection of a science, is capable of exerting a vast influence over the welfare, physical and moral, of the human race!"

Well did Dr. Griscom, *before this Association,* but a few months ago, quote Mr. Simon's words: "*Preventive Medicine* will effect INFINITELY MORE for mankind than all the DRUGS which have *yet been discovered,* and all the *curative skill* which has *ever* been exerted for the *alleviation* of disease."

Mr. President, and Members of the New York Sanitary Association: Fellow-Citizens of our beloved Empire City: Let us hope that the happy hour is near at hand when the Metropolis of the New World can partake of the fruits of a Medical Police.—*Amer. Med. Monthly.*

Clinical Remarks on three cases of Malingering, namely, two cases of Pretended Blood-spitting or Vomiting, and one of Suppression of Urine. By Dr. JOHNSON.

In a recent clinical lecture, Dr. Johnson referred to some cases of feigned disease as follows:—

In the course of our professional experience we sometimes have to deal with persons who, from various motives, attempt to impose upon us by feigning diseases or the symptoms of diseases, which either have no real existence or which are voluntarily excited by the would-be patient. Medical officers in the army and navy find it necessary to be very watchful to avoid being deceived by malingering men; in civil practice these attempts at imposition are much more commonly made by women and especially by hysterical girls, whose especial delight it is to excite sympathy for themselves and to mystify the doctor. I purpose now to say a few words respecting three cases of this kind which have recently come under my observation; two of the cases occurred in the hospital, and one in my private practice.

Case 1. The first case was that of a girl, E. S., who made a very poor attempt to feign vomiting of blood. She was 16 years of age, had a fresh color, and a plump and healthy appearance. She stated that during the last four years she had been subject to fits, which, from her description, were evidently of an hysterical character. The catamenia had for some time past occurred at irregular intervals of from fourteen days to six weeks, and had sometimes continued for a week. She said that a fortnight before her admission, on October 17, she began to vomit blood, and that she had daily since that time vomited about half a pint of blood; the vomiting being accompanied with a feeling of swelling in the throat.

There were no symptoms of dyspepsia, no cough, nor any signs of disease within the chest. I have already said that her appearance was that of good health. The day after her admission she had a well-marked fit of hysteria of half an hour's duration, during which she continually muttered, " He's going to shoot me."

She stated that during the past year her fits had been more frequent since she received a fright from the sudden appearance of a man in the garden at night. The day after her admission, and the four succeeding days, she pretended to have vomited blood, and she produced a liquid of a pale pink color, which the most careless observer could scarcely mistake for blood. It did not coagulate with heat, and under the microscope we saw, not blood corpuscles, but globules of oil, probably from milk.

The house-physician took from her locker a small bottle containing a red liquid, apparently compound tincture of lavender. The pink liquid which our patient pretended to have vomited was evidently a mixture of milk with this compound tincture of lavender.

From this time there was no return of the pretended vomiting of blood, and after keeping her in the hospital for a few days in order to give her the benefit of a daily shower-bath, we sent her out.

Case 2. Elizabeth G., aged 19, a servant, was sent up to the hospital from the country by a lady in whose service she had been for two months previously. Her mistress had taken great interest in her, and sent us an elaborate history of her symptoms. She came in on February 4. It was then stated that the catamenia had been absent or extremely scanty for the past ten months. She had been subject to frequent fits of fainting; she had had a cough for a month; and for a fortnight this had been attended with daily spitting of blood to a variable amount; the largest quantity brought up in the twenty-four hours, according to the statement of her mistress, being about a pint and a half.

Notwithstanding this loss of blood, she had a healthy appearance and a florid face. The voice during the first few days after admission was whispering, and she had an occasional loud barking cough. There were no physical signs of disease within the chest. She spat daily about two ounces of blood, which was usually of a bright color, always liquid, and apparently mixed with saliva; but it was never frothy, and never contained any material like mucus from the lungs.

It was evident that we had to deal with a case of hysteria, and from the first, suspecting some trick in connection with the hæmoptysis, I desired the attendants to keep a particular watch upon this symptom. I learned from the lady-sister in the ward that the blood was always spat out without cough or effort of any kind, as if it came from the back of the mouth or nostrils. I looked into her mouth several times before I discovered the source of the bleeding. At length, however, the mystery was explained. A few days since, at the time of my visit, the sun was shining brightly into the ward while I was examining her mouth with the aid of a bright metallic tongue depressor, which reflected a strong light upwards, and there, in the mucous membrane of the hard palate, I saw about twenty fine cuts or scratches, some of which were nearly healed, while others had evidently been made but a very short time before. When taxed with having deliberately attempted to deceive us, her face confessed though her tongue denied her guilt. She declared that she had not cut or pricked her mouth, and it was not until after she left the hospital that she confessed, as I learn, that she had scratched her mouth with a long darning-needle. After we had discovered her trick she did not venture to repeat the operation. Within three days nearly all traces of the cuts and scratches had disappeared; and the bleeding, which had been going on daily for a considerable time, entirely ceased. In the meantime we had been treating her with shower-baths and steel. She had recovered her voice. The spasmodic cough was rarely heard; and now, having put a stop to the hæmoptysis, we dismissed her.

Amongst other statements, to which we paid little heed, she declared that she had occasionally gone a week without an evacuation of the bowels, and two days without passing urine.

A pretended suppression of urine is not an uncommon phenomenon in cases of hysteria: I have lately met with an example in private practice, of which I will give you a few particulars.

Case 3. On March 7, I was asked by my friend, Dr. G., to see with him an unmarried lady, 21 years of age, of whom he gave the following history: She had been troubled with round worms; and after trying a variety of vermifuge medicines with only partial success, he gave her nine days ago half an ounce of oil of turpentine. The oil acted freely on the bowels, and brought away several worms. Two days afterwards he was sent for in consequence of no urine, or scarcely any, having been passed since the turpentine was given; and up to that time, that is, for a period of nine days, it was alleged that she had passed only about an ounce of urine a day. During this period she had remained in bed, eating and drinking as usual, apparently in good health; there had been no vomiting, nor any pains either in the urinary organs or elsewhere. Dr. G. had twice introduced the catheter, and had drawn off each time only about half an ounce of urine. These specimens he brought to me. One was turbid with urates, the other was clear; neither specimen contained a trace of blood or albumen, or any other morbid constituent.

I have never yet met with an instance of suppression of urine after a dose of turpentine, in which there has not been more or less of stranguary, nor one in which the urine, when any could be obtained, was not found to be both bloody and albuminous. I saw the patient the same day; she had a peculiar, shy, nervous manner, such as we should expect to find in one who was conscious of an attempt to deceive her friends, and there was an entire absence of the symptoms which must have been present if, as she would have had us believe, the uterine had been almost entirely suppressed for nine days. As I have already stated, there was no irritation of kidneys or bladder, no vomiting, and nothing abnormal in the urine which was obtained by the catheter. I had no hesitation in expressing to the patient's mother my conviction that her daughter was practising an imposition, and that in spite of the careful watch which was said to have been kept over her, she had contrived to dispose of the water after passing it. I advised that she should be more closely watched, and that the catheter should not be again used unless the bladder became paralyzed by over-distension. I have heard from Dr. G. that three days after our visit he was sent for, when he found the bladder distended, and drew off a full quart of healthy urine by the catheter. It was alleged that only about an ounce had been passed during the previous three days. Yet no bad symptoms had occurred. Dr. G. now insisted upon her getting up as usual, and said he should not again interfere without some urgent need. After another interval of three days he was again sent for. The bladder was again distended; curiously enough, however, only about half a pint came away through the catheter, but a few minutes afterwards she passed voluntarily at least a quart of urine.

Here the history of the case ends. Dr. G. writes to me that he sees his patient walking about every day, that she "cuts" him "because he has said unkind things to her relatives;' but she sends for her steel medicine, and her mother reports that she takes it.

If you should ever be troubled with a case like this, in which there is what you suspect to be only a pretended suppression of urine, you may, with the aid of a sensible and trustworthy nurse, quickly bring the symptoms to a decisive test. Let the nurse be instructed to ply the patient liberally with any simple liquid, frequent cups of tea, or toast and water, or barley-water, and if you please you may add to the diuretic tendency of the liquid by an occasional dose of compound spirit of juniper, or the spirit of nitric ether, or both combined. The nurse is to be instructed on no account to leave the patient even for a moment. If at the end of twelve hours, no urine having been passed in the interval, the bladder is not distended, you may conclude that your suspicions have not been well founded, and that there is some defect in the secreting power of the kidney.—*Med. Times and Gaz.*, April 26, 1862.

Fermentation as a Cause of Disease. By M. POLLI, of Milan.

The chemists, who have lately studied with the greatest success the phenomena of fermentation, have observed that this process has an importance much greater than could have been imagined. In fact, it is by fermentation that we explain the spontaneous decompositions of vegetable and animal tissues, such as dry putrefaction, eremacausis, gangrene, etc., and the whole series of successive transformations which organic substances undergo until they are converted into water, carbonic acid, ammonia, and inorganic substances. In consequence of fermentation, fatty bodies furnish us glycerine, salicine, and glucose; myronate of potassa is converted into the essential oil of mustard; neutral substances, such as urea and allantoin, evolve ammonia; and amygdalin produces the poisonous substances, essential oil of bitter almonds, and prussic acid.

Ferments act either by contact or *catalysis.* They are sometimes living beings, and sometimes very active substances, which are not even organized. Diastase, emulsin, pepsin, play the part of ferments. They can split up *(dédoubler)*, hydrate, or render isomeric organic substances.

There is a great analogy between the processes of fermentation and some of the organic metamorphoses which preside over certain maladies. Given an albuminoid substance, which in a particular stage of change, will act as a ferment, and particular substances, which are the results of such action, and here is the foundation of the humoral theory explained by well-studied chemical facts.*

But analogy is not sufficient; it has been demonstrated by experiments thoroughly made, that the blood experiences, in certain diseases, alterations and variations in its composition, and that we may produce an artificial disease which will present a wonderful resemblance to natural diseases, by injecting into the blood-vessels substances capable of acting as ferments. The numerous abscesses produced by the injection of pus into the veins of dogs; the septic affections caused by the injection of putrid purulent substances into the veins of animals; the diseases, presenting all the characteristics of typhoid fever which can be provoked, by the injection of putrefied blood into the circulation; in fine, contagious diseases, such as glanders, which are produced by the admission of an infecting substance;—these are facts which prove that one can produce a constitutional affection by the simple introduction into the blood of a substance capable of playing the part of a ferment. There are some diseases proceeding from a morbific ferment which might be styled *catalytic* diseases, in which the morbific matter, producing metamorphoses from contact with the alterable principles of the blood, is the first cause of all the symptoms which the animal economy presents. Finally, it is not possible to deny that fermentation may be produced in the blood.

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* According to Pasteur, the ferment is not an albuminous substance altered by oxygen, but an organized being, whose germ exists in the air. The presence of albuminous matters is an indispensable condition of all fermentation, because the ferment needs such substances for its development.

But admitting as an initial point, in many diseases, the action of a specific ferment in the blood, is it possible to prevent its effects, to render it inactive in the living body, as we can by means of many chemical agents outside of the organism? This is the principal point which gives interest to this pathological question.

M. Polli thinks that he has shown, by a series of facts and conclusive experiments, that it is possible to neutralize morbific ferments in the blood of animals by chemical substances, which will not alter the blood so much as to be incompatible with life, and that it is through the employment of such substances that one may hope to treat successfully all diseases whose primary cause is fermentation.

We know that sulphurous acid gas prevents alcoholic and acetic fermentations, and that it is also an obstacle to the fermentation of animal substances, and of all organic substances in general. Thus it arrests, even after the commencement of the process, the fermentation which the saliva and diastase produce when brought into contact with starch, that which myronin determines in the paste of black mustard, that which emulsin produces in the amygdalin of bitter almonds, etc.

M. Polli has discovered that the alkaline and earthy sulphites enjoy the same antiseptic and decolorizing properties. This fact is very important, since it allows of the employment of sulphurous acid in therapeutics. He believes that he has also discovered that the action of sulphurous acid and the sulphites on coloring matters, as well as on ferments, is not a deoxygenating process, nor a combination, nor a destructive process, but simply a molecular modification.

This *modus operandi* of sulphurous acid and the sulphites would give a suitable explanation of the precious property possessed by these chemical preparations, of preventing or energetically arresting the action of morbific ferments artificially introduced into the blood of animals, without altering the composition of the latter in such a manner as to be incompatible with life.

Polli, after a large number of experiments on dogs, has determined the dose of the sulphites which can be internally administered, the metamorphoses these undergo in the organism, and their curative action in affections produed by the injection of putrid or contagious matters into the blood.

1. Ten grammes of sulphite of soda were given to a dog during five days; then a drachm of pus was injected into the femoral vein.

The animal appeared sad, and refused the food which was offered it, but on the next day it regained its liveliness and ate voluntarily. Two days afterwards the same experiment was commenced, with the same results. At the end of some days the animal was perfectly cured.

2. On two occasions a gramme of pus was injected into the veins of another dog more robust than the preceding. The animal was sad; the next day it took food; the day following it was dejected, the respiration difficult; the wounds were sanious, the left leg and foot became swollen, and it died ten days afterwards.

3. An equal quantity of putrid blood was injected into the veins of three dogs; one died five hours after the injection, another after five days of sickness, and the third, who had taken sulphite of soda, experienced no uneasiness, and was cured rapidly.

4. A large number of other experiments, made with putrid blood and the mucus of glanders, showed that the animals died with all the symptoms of general infection whenever they were not treated with sulphite of soda, and that they were saved whenever they were put under the influence of this medicament.

If these facts should be confirmed by other experiments, M. Polli will have rendered an immense service to therapeutics, and will have cast some light on the cause—as yet so obscure—of a large number of diseases.—*(Jour. de Phar. et de Chim.)* L. H. S.

New York Academy of Medicine—Tracheotomy in Croup.

Dr. A. L. Voss opened the discussion on the subject of tracheotomy in croup, remarking as follows :—In opening for discussion the subject of Tracheotomy in Croup, I have to state that, having published more than two years ago a paper entitled "A Historical and Critical Examination of the Operation of Tracheotomy in Croup, with a Report of fourteen cases" (*New York Journal of Medicine,* January, 1860, pages 30–59), I shall refer to the paper repeatedly. Dr. Francis Home of Edinburgh, published the first monograph on croup in 1765; his book contains, on the subject of the operation in question, the following words (page 59): "When the case is desperate, may we not try bronchotomy ? I can see no weighty objection to that operation, as the membrane can be so easily got at, and is very loose. Many a more hazardous operation is daily performed. I would propose, however, that it should be first tried on a dead subject, that we may proceed with all manner of caution and assistance. But something ought to be tried in this dangerous situation." You see how early the operation, as a last resort, presented itself to the plain and simple reasoning mind. The earliest, although unsuccessfully performed operation of tracheotomy in croup, I am able to find, is by Duntze of Bremen, about 1790; the first case successfully operated upon is that by Thomas

Chevallier of London, in 1814. But the more general introduction of the operation we owe to the labors of Bretonneau (his first success in 1825), and to his pupils and followers, Trousseau, Velpeau, and Guersant. I believe now that there are very few who object to the performance of the operation in croup in general, and the Academy of Medicine in Paris declared in the celebrated discussion upon this subject, and the "*Tabage*" in 1859, that tracheotomy is, in the actual state of science, the only remedy to resort to, if there is no more chance of relief by medicinal substances. From France the operation came in general use in Germany, then in England, and lastly here.

As causes for the want of success in the earlier cases of tracheotomy, we have to point out, first, the treatment before the operation, antiphlogistics, or at least weakening remedies, such as blisters, etc., used very freely; second, the operation, if resorted to, was performed at the very last moment; third, the manner of operation, the instruments, and the after-treatment, were alike defective. At present, these causes of failure being for the most part removed, the success in consequence is much greater.

Guersant operated twenty-three times before he could boast of a successful case, and he had but seventeen successful cases out of eighty-two operations. I have thought it would be interesting to make the following statement in reference to the number of operations performed by different French surgeons, and their results, as I have been able to gather them from the French literature upon the subject.

	No. of operations.	No. saved.
Trousseau 1850–55 (private practice)	42	22
Gerdy	6	4
Archambault	12	7
Gosselin	23	—
Brochin	3	—
Follin	15	2
Brora	10	6
Depaul	7	1
Richard	12	2
Guerin	12	1
Michon	20	2
Deljuise	12	—
Langier	8	1
Huguier	8	—
Velpeau	13	4
Jarjavay	12	—

	No. of operations.	No. saved.
Favre	6	—
Auzias	2	1
Robert	23	1
Nelaton	36	3
Jobert de Lamballe	60	10
Lenoir	20	1
Desormeaux	11	2
Monod	40	—
Thielry	37	3
Roser (Marburg)	42	19
Passavant (Frankfort)	9	5
Fock (Magdeburg)	24	10
Baum (Gottingen)	31	12
Peinemann (Gottingen)	8	5

Of 131 operations performed by eight French physicians proper, 49 were successful; of 443 cases operated on in the Hôpital des Enfans trouvés from 1850 to July, 1858, a period of eight and a half years, 100 were successful.

In regard to the number of operations performed in this city I have not at present the means of giving any reliable statistics. It is worthy of remark that I have not yet heard of a successful operation in New York during the year 1859 (famous for diphtheria).

All these statistical data are, however, worth but little when we consider the great want of detial in the description of the symptoms of the malady. Real croup, I fear, is a disease of unfrequent occurrence, but much more fatal than usually believed. It is a specific disease (of zymotic character), sometimes local only, sometimes accompanied with general disturbance, sometimes sporadic, sometimes epidemic, and even contagious, wholly distinct from inflammation or catarrh.

The anatomical alteration pathnogomic of croup is the false membrane, lining and blocking up a more or less considerable portion of the air-passages, which gives rise in turn to dyspnœa, asphyxia, and sopor. Now, when insufficient respiration is present with commencing asphyxia, and is not dependent on affections of the lungs, and is not relieved by emetics, or perhaps other medicines, I think the operation of tracheotomy should be performed without hesitation. Tracheotomy is indicated where stenosis of the larynx or trachea exists. There we ought to resort to tracheotomy, in order to give free access of air to the lungs. If these organs are sound, the operation is *cœterris paribus* imminently a life-saving operation. If the lungs or the general system are otherwise affected, we, by freeing the patient from the imminent danger of suffocation gain time to treat the accompanying affections by the proper means. I will not speak of the danger of the operation as an additional complication to the already affected organ, as this subject is differently judged of by different authors. Tracheotomy stands, in this respect, on a level with other life-saving operations, herniotomy, ligature, cæsarean section, etc., and the same reasons sustaining such operations will be also applicable to tracheotomy. It ought to be remembered, that unrelieved stenosis of the larynx is absolutely fatal, even uncomplicated by other affections. As general diphtheritic intoxication or bronchitis, or bronchial croup, or pneumonia, or emphysema, are not affections absolutely fatal like stenosis of the larynx, in case the latter affection should be complicated with one of the former, the removal of the stenosis even by an operation would not only be justified but required, and it is obvious that the happy termination of the operation in complicated cases, or in very young children, is by far less frequent than in cases of no complication or in older children.

The younger the child is the less likely is a happy termination of the case after the operation to be presumed. In a "Lettre des Internes à Thôpital des Enfans à M. Bouvier," they recommend not to operate on children under two years of age, and on those from two to two and a half only with reluctance. The reports of cases of successful tracheotomy in children under two years are scarce, it is true, but Trousseau saved by the operation a child of thirteen months, still nursing. Scoutetten's famous case shows, at least, that a child of six weeks *may* be operated on with success if such an unusual event should ever present itself again. (It was Scoutetten's first operation, relating to his own child, but it is more than doubtful if the affection of the child was croup or rather laryngismus.) The youngest child I operated on was twenty months, the youngest saved was one two years four months; I also saved one two years six months, both girls.—*Amer. Med. Times.*

The Conservative Treatment of Fractures. By ISIDOR GLÜCK, M.D., Chief Surgeon to the Hungarian Hussars.

Gypsum or Stucco Bandages.—Although even in compound fractures, where the wounded place has to be left uncovered, the application of Seutin's starch bandage answers this purpose best, still there are some objections to its being used in the field, or even in the hospital.

1. *It dries too slowly*, and cannot replace therefore *immediately* manual extension, which is required in order to retain the ends of the broken bone in mutual contact. It is, therefore, necessary to use machines or apparatus till the bandage becomes dry, for 24 to 48 hours.

2. The *thickness* of the walls of the bandage *diminishes*, while the bandage becomes dry, and thus receding somewhat from the limb, cannot serve instead of the *manual extension.*

3. The application of the starch bandage costs on the field much time and trouble. The limb must first of all be surrounded by a roller, then covered with compresses and rollers, pasteboard and splints are then applied, and the whole again surrounded by a roller. The application of openings (windows) in Seutin's bandage is combined with difficulties. If the windows are made at the time when the bandage is applied, the same keeps *badly* together the fractured ends, and wood or tin splints must be used; if the windows have to be made when the bandage is *dry*, the wounded portion remains covered for a day or longer, and the excision or formation of the openings is in the hardened starch bandage yet more troublesome.

4. However dexterously we may apply the bandage, it will be pretty difficult to make so large openings as required in order to expose the injured portion without loosening at the same time the *whole bandage*, while small openings or windows expose but a portion of the injured part.

5. In suppurating wounds, the pus discharged, as well as the fluid applied for cleansing the wound, and the moisture of the cataplasms, will run under the bandage and destroy the epidermis.

6. The hardening and unequally contracting starch bandage (*i.e.* quickly hardening at its thin portions, and slower in its thicker ones) exerts an unequal pressure, and therefore an injurious effect, on the *swollen parts.*

7. The starch bandage cannot be applied for transporting the wounded soldier who receives on the battle-field a compound fracture, because it requires warm water (not always ready in the field)

for preparing it; then again, it dries slowly, the formation of windows causes loss of time and trouble, requiring the application of splints, and because the parts, being covered for a day or two, are injured, as suppuration may follow, and the pus stagnates and runs into the bandage; in damp weather it becomes *moist* and *soft,* in the rain; it is, therefore, necessary to have ready-made *capsules* of starch bandage, and the so-called *movo-amovible* bandage, which often do not appose sufficiently, and cannot therefore replace manual extension.

Recently, gypsum bandages have been suggested in Belgium, but their application, according to Dr. Mathieson and Van De Loo, is troublesome, and takes much time, so precious on the battle-field. This bandage is not lasting, its preparation and preservation still more difficult than that of Seutin's starch bandage. Much more preferable and practical is the preparation and application of *gypsum bandages* as made by Pirogoff,* and used by him to the greatest extent with the best results. The gypsum bandage is *on the battle-field* in many respects preferable to the starch bandage. The gypsum solution requires but *cold* water, and turns *hard* as soon as applied, and replaces therefore *immediately* manual extension, and neither machines nor apparatus are required for that purpose. The dry gypsum bandage becomes so hard that *no* splints are required, even if large windows are made, and transporting of the wounded soldier is *immediately* after the application of the bandage possible without injury.

The gypsum bandage is *simple* and *cheap,* as it consists of old *coarse linen* and *gypsum;* its application is simple and quickly made. The gypsum bandage replaces manual extension *perfectly,* the assistants need only for a *few minutes* keep the limb extended after the bandage has been applied, then the gypsum bandage is *stiff* and *hard* enough to retain the ends of the broken bone in the position given to them. Their displacement is *impossible* as long as the swelling does not diminish, and a *considerable* interspace is not formed between the limb and the bandage. Thus the gypsum bandage renders superfluous all machines for extension, as required, while the *starch bandage* becomes *dry.* Only by the application of the gypsum bandage in *obliqve* fractures of the *thigh* it is necessary to fix the pelvis, and to retain the limb extended by means of a *bedtable,* and by weights attached to the extremity. More apparent yet are the advantages of the gypsum bandage in oblique fractures where the ends of the broken bone are *distant* from each other, in compound fractures, and generally everywhere where it is necessary to keep open a wounded spot. In Pirogoff's mode of applying the gypsum bandage, the openings (windows) may be made *at once;* through them it is possible to view the position of the broken ends, the excoriations and wounds, and the curative process may be watched in its course. The gypsum bandage does not contract like the starch bandage, interspaces form *slower* between it and the leg, as in the gypsum bandage the interspaces depend upon the *decrease* only of the swelling, and not, like in starch bandages, also from unequal hardening of the bandage; and then, again, it does not become moist and soft in rainy weather. In complicated fractures the pus may be discharged, and find exit through the large windows made, and does not burrow itself *under* the bandage, as is common in the *starch* one. Wet dressings may be applied *immediately* on the wound itself. The gypsum bandage becomes hard immediately after having been applied; wounded soldiers may therefore be safely transported *immediately* after the application of the gypsum bandage, from one place to another, even in the rain, without the bandage being disturbed, although the gypsum bandage may appear *wet* externally, which sometimes lasts for a few hours. The gypsum bandage may, therefore, be cut through immediately after the application in the interspace of the splints, if that should be required, in consequence of too great a pressure, or pains, etc.

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* Professor of Surgery in St. Petersburg (Russia).

On the battle-field as well as in the hospitals, for transportation of the wounded soldier, in the treatment of complicated fractures with great dislocation of the ends of the fractured bones, the gypsum bandage is preferable to *every other* kind of bandages.

Requisites necessary for the Application of Gypsum Bandages in the Battle-field as well as in the Hospitals—1. Long, old hospital stockings made of linen, cut in front along the seam (if the seam is behind the stocking it must be turned and cut); old drawers also cut along the seam, and divided for one or the other limb; sleeves of old shirts (or instead of those long linen flaps cut in the form of stockings, drawers or sleeves); jackets or old vests, abdominal bandages covering the body once and a half; for fractures of the bones of the rump, pelvis, and of the neck of the thigh and bone. These pieces of linen used for surrounding the limb must be *equal*, *soft*, and *dense*. All seams must be removed.

2. *Cotton* or cleaned soft *flax*, *pads* filled with soft material, lint or flax for filling up (for instance, around the trochanters, around the malleoli in the popliteal region, and around the achilles tendons), simple and graduated compresses.

3. *Splints* of different dimensions in regard to length, width, and thickness, made of old course *sack linen*, as used for instance in hospitals for mattresses or straw mattresses. The old sack linen is folded twice, thrice, or four times, to the width of two fingers to one-third of a yard. The splints must, in fractures of the leg, the upper and forearm, exceed at least one-third of a yard the fractured bone, and in fractures of the *thigh*, and that of the neck of the thigh, it must be one-third of a yard longer than the *whole* extremity.

4. Strips (compresses) of the same linen from .2 inches wide, and of such a length as to surround the limb once or twice, they are calculated to fasten the splints, and are called *transversal* stripes (Pirogoff). These transversal stripes may be made also of fine linen, if the bandage should be a light one.

5. Plaster of Paris (gypsum) in form of fine powder and well dried. For the application of a bandage, never less than 2 lbs. have to be used (as for fracture of the forearm), nor more than 7 lbs., as for fracture of the neck of the thigh bone.

6. A vessel with cold water. The gypsum solution should not harden sooner than in five or eight minutes, in order to allow the application of the bandage. Although hardened, it still looks wet from the evaporation of the water, out of the bandage painted over with gypsum solution, and the patient may safely be carried with it.

7. *Large brushes*, as used by house painters. Besides those necessary requisites in hospitals, may be used finer linen rollers for simple fractures and splints made out of pasteboard; and for complicated fractures, with large wounds, *splints* of wood, of different dimensions, together with pads attached to them on both ends, and also a few pieces of sheet iron or tin may be held ready.

The Application of Gypsum Bandages—Is made in the following way: The injured limb is first surrounded with dry linen, a sleeve, a linen stocking, or with half a drawer. Bony prominences must be wadded, and hollows filled out with cotton. The linen surrounding it must not be too thin, nor have holes in it, in which case the linen must be doubled, or the limb first covered by cotton. If this is not done the moisture presses to the skin, and the patient complains of a cold or burning sensation.

2. The broken limb is put in the required position, the extension is then made, and the fractured ends then approximated. Sometimes it is necessary to begin with the reduction, and subsequently follows the surrounding of the limb.

3. The splints and the traverse strips of sack linen, each three or four times folded, are put near the patient *in that* order as required to be later applied to the limb. An assistant prepares the solution of gypsum, and paints with it the splints and strips, or rather dips them into the solution and brushes them with it. The proper application of the bandage depends now upon the gypsum solution. If the solution be too *thick* and dries *quick*, the splints and transverse strips are not *united* firmly together, nor are the splints firmly fixed if the solution be too thin. When the solution becomes denser, water must not be added to it, as the solution becomes through it creamy, is not imbibed by the linen, cannot be smoothed, does not adhere, and takes a long time to become dry.

5. The splints and strips of linen must be dipped in the solution, which I now prepare by adding to two pounds of water the equal weight of gypsum. They must be extended and swinging free, and must thus be brushed over on both sides with the gypsum solution as you see it here.

6. The splints must be applied longitudinally to the limb, and must be fixed by the transverse strips, carried around both the limb and splint. The transverse strips are applied in pairs, so that the one should cover the other partially. The splints may be applied

in such a manner that the one should cover the other partially, or, what is preferable, in such a way that between the splints should remain a free open space on *the side*, in *front of*, or *behind* the limb. The assistants producing extension must continue to do so until the bandage is *hardened*, i. e., about eight minutes after the gypsum bandage has been applied. During its application the limb must be kept extended free, in order to be accessible from all sides. The splints must be pressed firmly to the limb by the hand. The *transverse* strips must be drawn firmly and tightened around the limb, and by the hand or brush well covered with gypsum solution, in order that all prominences and hollows should be equalized. In oblique fractures and dislocations of the fractured ends, at least two layers of transverse strips are necessary. But if the bandage has yet to be removed, it is necessary—

1st. To apply the splints with a space between them.

2d. The transverse strips are covered from the middle (where about the extent of two inches remains uncovered) towards their ends with gypsum solution.

3d. The transverse strips are applied so that the uncovered part should correspond in its situation to the longitudinal interspace between the splints.

In the field it is necessary to have arranged, before the application of a bandage, all requisites in one package for each fracture separate. Thus, for fracture of the forearm, the bandages should be separate from those for fracture of the leg, as you see it here.—*American Medical Monthly.*

The Italian Campaign of 1859. *Medico-Chirurgical Letters from General Head-Quarters.* By Dr. A. Bertherand, Principal Medical Officer of the First Class, etc., etc. Translated for the American Medical Monthly.

LETTER III.

Milan — The Greater Hospital — Temporary Branches — The Institute of Brera — The Route from Milan to Brescia — The Goitre in Lombardy — Sanitary Condition of the Army.

To Professor Roucher:

My Dear Friend—My letter of the 8th to our worthy colleague, Dr. Frison, closed amid the shouts of the enthusiastic welcome given us by the people of Milan. To add to the numerous accounts which have already reached you of this fairy-like reception, would be superfluous. Allow me, then, continuing my *rôle* of observer and physician, to lead you from the Corsi and the crowd which overflows them, to the more remote quarters of the city, where

Lombard gratitude and charity have generously thrown open asylums to the victims of the field of honor. More than six thousand wounded French and Austrians are already found gathered in the great city, and soon the glorious but bloody encounter of Melegnano will carry the figure up to eight thousand. The most admirably ordered administration might certainly stand appalled! But no emergency can be too great for the sentiments of patriotism and devotion which exalt every Milanese heart. To the large hospitals and infirmaries of Maggiore, San Ambrogio, Fate Bene Fratelli, and Fate Bene Sorelli, have been added, as if by magic, the temporary branches of San Lucca, Monastero Maggiore, Collegio San Filippo, etc. Benevolent commissions are organized among the more noted citizens; the most generous donations of bedding, linen and lint, pour in from every side. Physicians, superintendents, even laborers, all are at their post. In order to infuse as much order as possible into this immense service, all the Austrians, whether sick or wounded, are collected in the spacious halls of the San Francesco barracks. The generosity of the Emperor has liberated forty of their captured surgeons, on the sole condition that they shall continue their useful ministrations at that place. San Ambrogio, the ordinary military hospital of Milan, will be especially devoted to the necessities of the Sardinian army, while to the French are assigned the other hospitals which we have named, and those which it is still designed to open. Nor is this all.

To assure to each unfortunate those delicate attentions which, in the hospitals of our own land, devolve upon the pious labor of the Sisters of St. Vincent de Paul, would necessitate the depopulation of all the convents in Lombardy, and even this holy *impressment* of the daughters of Heaven would not suffice for the emergency. But be reassured; the same public spirit which yesterday enrolled father and son under the banners of Garibaldi, impelling every arm as well as every heart to the conquest of national independence, will to-day recruit among mothers and beloved daughters, these auxiliary legions of religious devotion. Our wounded will soon tell you themselves of their hourly attentions, the constancy with which they dressed their wounds, proof against the heart-rending scenes of the hospital, and of those nameless alleviations, the potent secret of which woman's heart never so nobly divulged!

God forbid that among so many instances of assiduous care, of generous self-devotion, of kindnesses lavished without preference as they were without ostentation, I should be willing to establish degrees, to concentrate on certain of the guardian angels of our soldiers' couches of pain, the respect and admiration in which the gratitude of our army blends them all without distinction. And yet, how can I impose silence upon the memories of our visit to San Filippo, on the 10th of June? There, as everywhere, charity watched, ever alert, earnest, indefatigable. In one of the lower wards, occupied by those who were more severely wounded, two women that morning come from Melegnano, mother and daughter, both young and beautiful; the Marquess L. and the Comtess M.

were bestowing their impromptu ministrations with a grace at once touching and sad. The severe mourning robes of the Marquess served to deepen the tinge of melancholy which marked her demeanor. It was evident that the echo of a cruel loss had inspired the heart of this noble mother with the heroism needful for the sad pilgrimage which she was to-day making, courageous, but heartbroken. Do but hear the Christian and sublime simplicity of her faith! "War, sir, snatched from me my eldest son: he died eight months since, from the effects of a ball received while fighting with your army at Sebastopol. When I learned that wounded Frenchmen had arrived at Milan, and that I could dress their wounds, I felt that God had sent me his first consolation."

The Greater Hospital, or Grand Civil Hospital, founded towards the middle of the fifteenth century, by the generous provisions of F. Sforza and Blanche Marie Visconte, his wife, commends itself by the spaciousness of its porticos and courts. Several of its wards recall the appearance and height of the naves of our churches. Having its rear on the Naviglio, its proximity to this canal affords inexhaustible supplies of water for the wants of its large population (from 2,500 to 3,000 patients), and insures the maintenance of a degree of cleanliness beyond anything that could be hoped for.

At the Greater Hospital, I had an opportunity of seeing—unfortunately the interview was a very brief one—the glorious wreck of the First Regiment of Zouaves, which left Algiers, so full, so brilliant, a few days before my own departure, and of which Melegno had just put *hors du combat* the colonel, thirty-three officers, and five hundred of its bravest soldiers! I regret, too, that lack of time prevented my meeting our worthy Milanese *confrères*, M. Gherini, the renowned operator, M. Cotta, those skillful physicians Griffini and Strambio, so honorably known from their connection with the medical press of Lombardy, and that phalanx of enlightened practitioners who are distributed through the numerous dependencies of the large civil and military hospitals of the city. To say that the important superintendence of this vast total of surgical departments is to be confided to the direction of our learned colleague, the principal Medical Officer, M. Cuvellier, is but to guarantee in advance the good management of an organization on which the Surgeon-in-Chief, Larrey, has bestowed so much anxious care. The army, if the fortunes of war so demand, will find behind it protection and shelter for more than eight thousand wounded.

Although it does not take rank among the Universities of Italy, the city of Milan has yet possessed, since the commencement of this century, an important Academic Institute, in which the principal branches of public instruction, the various sciences, letters, and the fine arts, are represented. Pensioned members and amateur investigators are charged with the examination of useful discoveries and the perfecting of every line of study. Established in an old convent of the Jesuits, the Breva Palace is interesting as much from its sculptural beauties, its library, its manuscripts, its pictures, its frescoes, its coins, its observatory, and the rich collections of its botanical garden, as from its peculiar architecture. Imagine a spacious, quadrangular court, surrounded by two stories of arches, supported by double columns; opposite to the entrance, under a majestic vestibule, two stairways sending up their marble spirals, and reuniting at the next story on a common platform; on either side, two colossal statues, of Beccaria and Parini, and you will have a feeble idea of the impression of grandeur which one feels on entering this temple, raised in honor of genius, to the culture of the intellect. How much have I regretted, my dear friend, in the midst of these wonders, my inability to handle the pencil! How grandly would a sketch of Breva have inspired you, in the plans which they tell me you are pursuing to elevate our Algiers Medical School from the humble cradle of its modest infancy! Designs by Richini and Piermanni, a few marbles by Marchesi and Mon i, the funds secured in advance from our Algerian ediles, and you have, at one stroke, endowed our rising faculty with a monument worthy of its future destinies.

On the morning of the 12th we leave for Brescia. The air is damp and cold, the sky still heavy with clouds, which have darkened it regularly every evening since our arrival, and expend themselves during the night in violent storms. They call it only about twenty-five leagues from Milan to Brescia, and we must devote at least seven hours to the journey. Indeed, the Austrian army, fighting as it retreats before our advance guard, marches compact and in battle array. We are thus compelled to mass our entire force, and to advance in line, ready at any moment to give or to accept battle. When a hundred and twenty-five thousand men are thus thrown forward, followed by their baggage, their provisions, ambulances, artillery, munitions, reserves, etc., how is it possible to accomplish more than five to six miles in a march, over roads on which trains are hourly crossing each other's paths in inextricable confusion? This march by short stages, at the same time that it husbands the strength of the soldiers, gives us an opportunity to observe with a minuteness which cannot fail to be productive of useful results, the principal aspects and resources of the country.

The proverbial richness of the verdant plains of Lombardy justifies, perhaps even surpasses, their reputation. It is impossible to find fields more highly cultivated, greener meadows, more beautiful borders of mottled mulberries, or a more perfect system of irrigation. The design and first execution of the last belong, they assure us, to the Roman epoch. In striking contrast is the condition of the population of these regions, apparently so favored by Heaven. They appear wretched, emaciated, and in some places very generally affected by goitre. Is iodine, atmospheric air, or the saline element wanting in these beautiful waters, which, flowing always over beds of sand and gravel, come down so limpid and cool from the torrents and lakes of Upper Italy? Or must we attribute the prevalence of the disease to insufficiency of food, among the villagers of the interior, immovably devoted to their diet of *polenta* (a porridge made from Indian corn)? As far as the influence of the water as an etiological agent is concerned, the analysis of numerous specimens collected from Milan to the Lake of Guardo and the Mincio, by our learned colleague of the Medical School, M. De Lille, Prof. Brauwers, the Apothecary Major, and his zealous co-laborer of the ambulance corps of the General Head-Quarters, Assistant Apothecary, Major Viltard, will undoubtedly afford valuable elucidations of one of the most vexed problems of pathogeny. If I may rely upon a distinguished physician of Brescia, the goitre really exists as an endemic disease in Lombardy, only at the very feet of the southern slopes of the Alps, and almost exclusively in localities whose topographical situation prevents their receiving the atmospheric currents of the northern winds. It would certainly be a matter of interest to verify this statement.

The majority of the cities which we pass through—Gorgonzola, Cassano, Triviglio, Romano, Cava, Calcio, and Travagliato—possess small civil hospitals, sometimes founded long since, and supported by donations and special legacies, in old convents or in buildings erected for the purpose; sometimes temporary affairs, dating from the last epidemic of cholera, and situated in private houses, awaiting a definitive organization. Several among the first class, as those of Gorgonzola and Travagliato, possess considerable architectural importance. Completing their deficiencies by sub-hospitals in the barracks, churches, castles, and large private houses, each of these establishments will be enabled, in case of an engagement, to furnish hospital accommodations, though it be but temporarily, to five or six hundred men. We do not leave these various lodging-places without having personally informed ourselves of the means of transportation which the local administration can place at our disposal in case of need, and every evening I address a very circumstantial report to the Surgeon-in-Chief on this subject.

Despite a heat at times Algerian in its intensity, and a dust often stifling, the sanitary condition of the troops is excellent. We notice as yet only a few cases of gastric derangement of a remittent type, and quite a number of returns of intermittent disease among the soldiers who belong to African regiments. Two principal causes seem to me to contribute to this otherwise unimportant affection: 1st, the cold nights, the soldiers not being provided with blankets for the bivouac; 2d, the immoderate use of water and adulterated liquors.

The art of adulterating wines must have had its origin with the sutlers of armies. To manufacture wine on the spot is an effective method of avoiding the expenses and risks of a difficult transportation.

℞.—Of water from the nearest ditch,
Alum,
Beet-juice,
Amylic alcohol (or any other cheap product of distillation), āā., q. s., according to the vintage or brand required.
Mix in an *old* cask.

The recipe, you must grant, is expeditious, and besides, enables the maker to cheat the vigilance of the customs.

At last, here we are in Brescia—and undoubtedly likely to be for several days to come. My pen claims, in its turn, a little rest, after the long march that it has just accomplished.

Trusting, nevertheless, that you will not, like myself, find it too long, believe me

Ever yours, affectionately.

BRESCIA, *June* 18*th*, 1859.

On the Manna of Sinai, and the Manna of Syria. By M. BERTHELOT.

"They took their journey from Elim, and all the congregation of the children of Israel came unto the wilderness of Sin, which is between Elim and Sinaï. . . . And the whole congregation of the children of Israel murmured against Moses and Aaron; and the children of Israel said unto them . . . Why have ye brought us forth into this wilderness, to kill this whole assembly with hunger? Then said the Lord unto Moses: Behold I will rain bread from heaven for you. . . . And behold upon the face of the wilderness there lay a small round thing, as small as the hoar frost on the ground. And when the children of Israel saw it, they said one to another: *Manhu?* which signifies: What is it? . . . And the house of Israel called the name thereof Manna. . . . The taste of it was like honey. . . . And the children of Israel did eat Manna forty years. . . . They did eat Manna, until they came to the borders of the land of Canaan.—*Liber Exodi,* cap. xvi.

What is the substance described in the preceding recital, which figures so much in the history of the Hebrew nation, and the name of which serves as a type of a multitude of natural sugary substances? Can it be likened to any saccharine matter known in the present day? This is a very controverted question. Two principal opinions are current on this point: the one regards manna as a sugary exudation supplied by various shrubs, principally by the *Alhagi Maurorum* (Tourn.), a kind of saintfoin; the other opinion likens the manna of the Hebrews to a species of cryptogamous plant. In these days the origin of the manna gathered at Sinaï may be regarded as settled, according to the researches made upon the spot by MM. Ehrenberg and Hemprich. "Manna," says Ehrenberg, "is found at the present time in the mountains of Sinaï; it falls upon the earth from the regions of the air (that is to say, from the top of a shrub, and not from the heavens). The Arabs call it *Man.* The indigenous Arabs and the Greek monks collect it and eat it with bread in the same way as honey. I have seen it fall from the tree, I have gathered it, brought it myself to Berlin with the plant and the remains of the insect." This manna flows from the *Tamarix mannifera* (Ehr.) Like a number of other mannas, it is produced under the influence of the puncture of an insect, the *Coccus Manniparus* (H. and Ehr.)

If the origin of the Sianï manna be thus established, it is not so with its chemical nature. And this is a subject the more interesting, because the chemical analysis can alone explain its character as a nutritive agent. The result of my researches among sugary substances has led me to make some experiments in this respect. I have operated upon the following substances, the one identical with, the other analogous to, the manna of Sinaï:—1st. The Manna of Sinaï; 2d. The Manna of Syria, or rather of Kurdistan.

1st. The Manna of Sinaï.

The specimen was given to me by M. Decaisne; it was produced from the *Tamarix mannifera;* it had been gathered and brought home by M. Leclerc, who accompanied the Princes of Orleans in a voyage to the East (1859—1860).

This manna presents the appearance of a yellowish syrup, thick, and containing vegetable remains. It contains cane sugar, interverted sugar, dextrine, and water. The weight of the water was about a fifth of that of the whole mass. Its composition, after the removal of the water and vegetable remains, was as follows:

Cane sugar	55
Interverted sugar (levulose and glucose)	25
Dextrine and analogous substances	20
	100

2d. Manna of Kurdistan.

The specimen was given to me by M. L. Soubeiran; it had been sent to Paris by Dr. Gaillardot. It had been gathered on the mountains of Kurdistan, to the N. E. of Mossoul. Subjoined is the information on this subject in a letter addressed to M. Gaillardot by M. Barré de Lancy, then Chancellor to the Consulate of France at Mossoul. This manna "falls without distinction on every plant in July and August, but not every year; there has been very little for the last three years. It is gathered by cutting the branches, which are left to dry for two or three days in the sun, when they are shaken, and the manna is obtained, which falls like dust. The Kurds use it without purifying it. They mix it with dough, and even with meat." The matter presents itself under the form of a pasty mass, almost solid, impregnated with vegetable matter, and especially with the leaves of the nut-gall tree. It contains cane sugar, interverted sugar, dextrine, water, and, lastly, a small quantity of green waxy matter. This is the composition of the part soluble in water:

Cane sugar	61.
Interverted sugar (levulose and glucose)	16.5
Dextrine and analogous substances	22.5
	100.0

From the preceding results, we see that the manna of Sinaï and that of Kurdistan are essentially composed of cane sugar, dextrine, and the products of the alteration, without doubt, of these two principles. Their composition is almost identical, a result the more belong to two extremely different species. Nevertheless, this phenomenon is not without analogy. Thus we know that the singular, because the plants which produce these two mannas honey gathered by bees from very different flowers possesses a composition almost identical. This is not the only comparison which may be made between honey and the manna in question. Not only do insects concur equally in the formation of honey and that of the manna of Sinaï, but further, this manna, as well as honey, is composed of cane sugar and interverted sugar; the manna of Sinaï contains, beyond this, dextrine, and the products of its alteration.

If we return now to the historical recital of the manna of Sinaï, it is easy to explain the use of this substance as a food. In short, it is a true honey, perfected by the presence of dextrine. We see, at the same time, that the manna of Sinaï does not suffice as an aliment, since it does not contain the nitrogenous principle. Therefore, animal food is associated with it, as well in the actual usage of the Kurds as in the biblical narratives.—See Exodus xvi. 8—13. *London Pharm. Journ., Nov.,* 1861, *from Comptes Rendus.*

Aspidine is the name given by Pavesi, of Mortara, to the following preparation containing the active principle of the root of male fern: 1 kilogr. of recently dried powdered root is displaced by alcohol, and then by water; the two liquids are mixed, the alcohol distilled off, and the residue boiled for a few minutes with 75 grm. slacked lime. After 24 hours rest, the precipitate is washed with water, dried and exhausted by boiling alcohol; the solvent is evaporated, when an oleo-resinous substance is left, possessing an acrid bitter and nauseous taste. It may be given in pills or in alcoholic and ethereal solution.—(Giorn. di. farmac. c di chim. di Torino.—Archiv d. Ph. cvii. 231.

On the Fluid Extract and the Syrup of Ipecacuanha. By William Procter, Jr.

An alcoholic fluid extract of ipecacuanha has been recommended by the committee of the College of Pharmacy as a means of making the syrup. This extract is made of the strength of an ounce to the fluidounce by evaporating the tincture made with alcohol .835 till reduced to the proper strength. This fluid extract contains the resin of the ipecacuanha, and its odorous fatty matter and wax, in part. When such fluid extract is employed to make the syrup by simply adding it to simple syrup, cold or hot, a cloudy syrup is obtained, which, while it is efficient and keeps well, separates by standing, and does not present a handsome appearance. With a view to remedy this objection, it is proposed to rid the fluid extract of all matter insoluble in cold water, so that when added to simple syrup it shall produce a transparent medicated syrup.

The following formula is recommended:

Take of Ipecacuanha, in fine powder, 16 ounces (troy);
Alcohol,
Water, of each a sufficient quantity.

Mix the ipecacuanha with six fluidounces of alcohol, pack it firmly in a conical percolator, cover it with a disk of muslin, and pour on alcohol until three pints have nearly passed, or until the drug is exhausted. Distil off the alcohol from this tincture till a syrupy residue remains, throw this into a pint of water, boil it until the last traces of alcohol disappear, the liquid becomes nearly clear, and the waxy oleoresinous matter separates and adheres to the vessel. When the solution cools, filter it through paper; and if it does not measure eight fluidounces, mix the residue with sufficient water to make that measure; but if it measure more, evaporate it carefully to that bulk. To this add eight fluidounces of alcohol, and mix.

Thus made, fluid extract of ipecacuanha is a dark reddish-brown liquid, having the odor of ipecacuanha well marked after standing awhile, and mixes with water and syrup to form a transparent solution. If the process is carefully conducted, it fully represents the drug, as Pereira states that the waxy matter separated from the tincture is not possessed of emetic properties.

Syrup of Ipecacuanha.

Take of Fluid Extract of Ipecacuanha, a fluidounce;
Simple syrup, thirty-one fluidounces.
Mix them.

Thus prepared, syrup of ipecac has a fine bright color, is transparent, and may be made without heat, and, in fact, extemporaneously. It may be well to mention that in the forthcoming Pharmacopœia it has been proposed to increase the strength of this preparation to ℥j to Oj, which is double the present strength, and equal to that of the wine. This will be a great improvement, and to make such syrup it will be simply necessary to mix a fluidounce of this fluid extract and fifteen fluidounces of simple syrup.—*Am. Journ. Pharm.*

"*Certain Public Necessities.*"

A London medical journal devotes an article to the establishment of "Certain Public Necessities." It says:

"There are few sanitary questions which affect more immediately individual comfort and health than those involving an inquiry into the due provision of the means by which the out door population and strangers of a great city may readily and decently 'relieve nature.' There are none which may be more appropriately discussed by the medical press; and there surely cannot be a point relating to the necessities of our common humanity upon which there exists less scope for false modesty in discussing it than the one upon which we now purpose commenting.

"Every one meets here upon common ground, for no respect has been shown to persons. Man and woman, the roughest and the gentlest of our race, all ages, the old man and the child, the sound and the sick, must yield alike to the calls of that nature with which they have been every one endowed. These calls we all know are imperative; sooner or later they must be obeyed; the time for which they may be disregarded with comparative impunity is but short under any circumstances, and under some almost inappreciable. Generally, if not attended to at once, great discomfort, or even disease, is the consequence. If such be the case when the body is in the possession of youth and health, how much more important is it that our physiological necessities be not unheeded when sickness or advancing years are influencing the frame. Inability to evacuate a distended bladder, or to relieve an irritable bowel, becomes a torture to the mind as well as to the body, of the severest kind. The agony is sometimes almost unendurable. Life is rendered truly a misery to some people from the knowledge or the dread that if they once leave the privacy of their own home they may be quickly so circumstanced as to place—and very painfully, too—that life in imminent danger.

"Now, it would naturally be supposed that to meet these stern wants communities would, as a matter of course, make such public as well as private arrangements as might insure their requisitions being easily and conveniently fulfilled. Disagreeable as the public confession of them may be, yet, as it is a necessity none are exempt from, we can the more readily put up with its explicit admission. Until within a very recent period, however, the conveniences accessible by the people at large were absolutely next to nothing. Even at present they are extremely few in number, and have reference to one exigency, and to a single sex. In order that the outdoor world of a great city may feel at ease *quoad* the important physiologic necessities we are discussing, it should have the means of ready and modest access to *urinals*, *water-closets*, and *lavatories*. We do not, of course, pretend to say that the government or any other public body is to supply the populace with all of these gratuitously. That would be out of the question as regards water-closets and lavatories. But as respects urinals not so, and for this it is that the demand is more urgent. Of such essential conveniences there should be provided at the public expense an ample number, and in such important thoroughfares, and withal so unobtrusively situated, as to be as readily found as they are modestly approachable. To be able always to combine the latter qualifications may be somewhat difficult, but under any circumstances we should be immeasurably better off than with the old stone boxes of the bridges, corners of public houses, and the warning sign-boards at the entrance of dirty gateways and yards. Most of these were even more indecent than they were public, if that were possible."

The Ladies' Sanitary Association of London.

This association is extending the sphere of its usefulness wider and wider. The tracts are not only widely circulated in England, but they have reached continental cities, where the health authorities have in many instances reproduced them. A London contemporary thus speaks of the sphere to which this excellent association devotes its labors:

"It enters the mechanic's room and the poor man's cottage, and talks, in a woman's voice, to mechanics' and poor men's wives. It points out that though the court may be drained, or the cesspool removed, the living room must have its windows opened; that though the infant may have been vaccinated, it must be fed and clothed in a proper manner; that notwithstanding warm under-clothing and coals have been supplied by the parish or by public charity, soap and warm water must be provided at home. The children laid up with scarlet fever may have been seen by the doctor, but his aid will be but trifling if they are left half suffocated in the close atmosphere which reeks up from a dirty and slovenly bed. The mothers of families are taught that true economy exists not simply in buying in a cheap market, but in knowing how afterwards to employ their bargains to the best advantage. There is a good cheap cookery, as well as a bad cheap one; an effective cheap mode of dressing, as well as an inefficient cheap style of apparel. The former are shown to be easily substituted for the latter. These are, after all, things in which most reform is needed within the poor man's dwelling, and which reform, when decorated by the thrift and comfort of hygienically regenerated wives and daughters, will do more towards the winning of our working men from skittle-grounds and gin-shops than a millennium of Exeter Hall demonstrations."

Amount of Silver in Photographs.—Dr. J. J. Pohl, of Vienna, has estimated the silver in positive photographs taken upon ordinary albuminated paper. After drying them at 100° C. (212° F.), he found 0.116 per cent. equivalent to 0.125 per cent. oxide and 0.183 per cent. nitrate of silver. The value of the material is, therefore, very insignificant.—*Zeitschr. f. Photogr.*

FOSSIL FEATHERED REPTILE.—The announcement made to the geologists of Germany, about three months ago, by Hermann Von Meyer, that he had obtained from the lithographic slate of Solenhofen, in Bavaria, a fossil impression of a feather on the upper and under surface of a split slab, and that this feather was undistinguishable in its appearance from that of existing birds, attracted but little attention beyond palæontological circles. We had already evidences of birds from the green sand; and the discovery of birds in the Solenhöfen oolite would merely lead us to connect the osseus remains still more closely with the evidence of avian footprints discovered by Hitchcock in the Triassic sandstones. Von Meyer's feather, which he termed *Archæopteryx*, is, however, completely eclipsed in interest by the intelligence made public by the venerable A. Wagner, of Münich, that in the collection of M. Häberlein, of Pappenheim, exists the skeleton of an animal undoubtedly of reptilian organization, as indicated by the vertebral column and form of the pelvis, and offering most analogy to the genus *Ramphorhynchus*, or long-tailed *Pterdactylus*. It approaches the class birds by its trifid metatarsals, and by having developed from a flat bone near the *ulmar* and *radius*, and supposed to be a carpal, a radiate fan of feathers, similar to those of birds. At the apical extremity of the tail is another radiate fan, also of feathers. The rest of the animal appears to have been destitute of plumage. Unfortunately the head is wanting. This anomalous form is referred by Wagner to the order *Pterosauria*, and has been generically distinguished by the term *Griphosaurus*, from *grĭphos, an enigma.—Med. Times and Gaz.*

INFLUENCE OF SILICIC ACID ON FERMENTATION.—J. C. Leuchs states that silicic acid precipitated from water glass produces fermentation in saccharine solutions, particularly after the addition of some tartaric acid, and generates the odor of beer yeast, afterwards of fruits, and finally of ether; in very dilute solutions the odor of putrid yeast appears. Silicic acid does not lose this property by boiling with water, or by repeated employment for fermenting and subsequent washing with water. A solution of sugar, containing alcohol and tartaric acid, fermented briskly with silicic acid, from which the gas was evolved, and amid the separation of a yeasty foam.—*Dingler's Polyt. Journ.*

TO RECOGNIZE GRAPE SUGAR BESIDE CANE SUGAR.—O. Schmidt employs trisacetate of lead and ammonia, which produce with both sugars white precipitates, which after a while, particularly when heated, assumes a red color in the presence of grape sugar, but remains unaltered by cane sugar; a small quantity of the former mixed with a large proportion of the latter may thus be recognized by the red tint of the precipitate.—*Ann. der Chem. und Pharm.*

Experiments on the Best Mode of Correctly Estimating the Per Centage of Alcohol Existing in Wines. By JOHN HORSLEY, F.C.S., London. Analyst to the County of Gloucester.

First, note the specific gravity of the wine to be tried, say that compared with distilled water at 1000, it is .997, or 3 short of that number; then take 5 fluid ounces of the wine and evaporate it by rapid boiling in a sufficiently capacious flask to 2 ounces; then place the flask in a pan of water for a short time to cool. By this operation you will have expelled not only all the spirit, but a good portion of water with it.

Next make this residuary liquor containing the sugar and other extractive matter of the wine, minus its alcohol, up to the original bulk with distilled water, and take its specific gravity, which in this case will be 1.020. If this excess of 20 over the weight of the standard of distilled water be deducted from the specific gravity of the wine thus,—

.977 including its spirit, water, and other extractive matter of the grape;
20 amount of extractive matter in the water only;

.977 will be the true specific gravity of the spirit and water contained in the wine, minus the extractive matter, which is equal to 17 per cent. of alcohol, according to the published tables of alcoholic strengths at different densities and temperatures.

Or, which is nearly the same thing, we may proceed by subtracting the specific gravity of the wine, .997, from the residuary liquor, thus 1.020
997

leaving .23, which, deducted from the standard of distilled water 1000
23

leaves .977 as the true specific gravity of the spirit and water in the wine.

These examples may be further verified by a distillatory experiment thus:—Take 5 ounces of the wine; distil off exactly half by a gentle heat from a graduated retort to which a receiver is connected till oiliness ceases to form in the tube end of the retort, indicating that all the alcohol has passed over. The specific gravity of this distillate (consisting of spirit and water) will be .955, equal to 34 per cent., which, divided by 2—as only half the bulk has been drawn over—gives 17 per cent. Or the distillate may be diluted with its own bulk of distilled water up to the original 5 ounces, when its specfiic gravity will be .977, equal to 17 per cent. of alcohol.

This per centage may be converted into Revenue proof spirit by rule of three sum, thus:—

Alc. Wat. Alc.
As 49 : 51 : : 17 = 17.69 water.
17 alcohol.

Proof - - - 34.69

Chem News, London, Oct. 19, 1861.

Homœopathy in Denmark.

We extract the following statement from a letter to the *Medical Times and Gazette,* dated Copenhagen, March 10th.

"Homœopathy, this apparently immortal folly of Hahnemann's, has not found a fertile soil in this country. The common sense of the population, and the great and well-deserved confidence enjoyed by the Medical Profession at large, has stunted the growth of this form of quackery amongst us. But as weeds will grow in the best cultivated garden, there are also amongst us a few followers of Hahnemann. These persons are allowed to dispense by themselves, and are not subjected to any control, as they do not write prescriptions; their trade is, however, confined to the lowest classes, sugar being much cheaper than medicine, which is certainly a consideration. No respectable medical man in the kingdom has embraced homœopathy; nor would any one condescend to meet a Homœopath in consultation, or to seriously discuss Hahnemann's principles; and we often wonder that, instead of punishing the followers of his by silence, so many distinguished medical men in England should have taken up the cudgels against them. As far as I know, there are only four Homœopaths in the whole of Denmark, viz., three in Copenhagen, and one in the country. One of the former was lately brought before the Criminal Court, when it was proved by a number of witnesses, on oath, that he had never made any examination of the condition of the patients who had come to consult him, but merely given them a piece of sugar and sent them away as fast as he could, in order to be able to 'do' as many as possible of a morning. Many persons suffering from gonorrhœa and syphilis were thus sweetly treated, and the results of the neglect may be imagined. A nursemaid, amongst others, who suffered from a severe form of syphilis, had been treated by the man for several weeks without his knowing anything of her complaint, and of course, without any warning having been given to her employers. He declared an apprentice, who suffered from common itch, to be affected with the king's evil, and refused to look at the skin of the patient. The same distinguished practitioner had already, previously to his last trial, been punished several times; once for giving testimony of death without his having seen the body; another time for not having cut down a man who had hanged himself; and again, for having treated a syphilitic patient without looking at the ulcer. The only Homœopath practising in the country, is a clergyman in Jutland, who has already five times been convicted for quackery, and was the last time sent to prison for two months. The same man has also been convicted for abuse of his clerical powers. From all this I believe I am justified in stating, that Homœopathy had better shut up altogether in this country.—*Med. Times and Gaz.*, March 29th, 1862.

BORAX IN MILK.—Prof. Kletzinsky states that borax is often employed to prevent milk from turning sour, and to impart to it more consistence, so as to make it appear more cream-like. This addition is detected in the ashes by boiling them with alcohol acidulated with sulphuric acid; the presence of boracic acid is ascertained from the brown color of curcuma paper and from the green flame of the burning alcohol.—(Polyt. Centr. bl. 1861, 224.)

DETECTION OF PARAFFINE IN WAX.—Prof. Landolt, of Bonn, recommends to warm the wax with an excess of fuming sulphuric acid, (Nordhausen oil of vitriol); a complete destruction of the wax takes place, leaving a black gelatinous residue; paraffine is, under the same circumstances, very slowly attacked, and remains as a transparent layer, readily separated from the fluid portion. Wax containing 50 and 75 per cent. paraffine yelded 45 and 68 per cent.—(Schweiz. Zeitschr. f. Ph. vi. 170–171).

PARAGUAY TEA.—Dr. Stahlschmidt found that the distillate from Paraguay tea was opalescent, had a peculiar slight odor of tea and a taste resembling peppermint. From 18 lbs. he obtained 38 grm. caffeina = .44 per cent., or more than three times as much as Stenhouse, by the following process: The decoction was precipitated by basic acetate of lead, the decanted liquid freed from lead by sulphuretted hydrogen, evaporated, and the syrupy residue treated with hot benzole. On cooling, caffeina crystalizes in white needles, nearly chemically pure, which may be re-crystallized from water or alcohol.—(Poggendorf's Annalen, cxii. 441.)

EXTRACTUM GENTIANÆ.—Considering the presence of pectin and pectase in gentian root, and the converson of the former by the latter under the aid of a moderate heat into nearly insoluble pectic acid, Feldhaus urges the propriety of exhausting the root by digesting it for several days at a temperature of 45° C. (113° F.) On expressing the aqueous liquid, floccules of the acid remain behind intermixed with the ligneous portion of the root. The infusion is now evaporated to about ¾ the weight of the root employed, and mixed with an equal bulk of strong alcohol, and may now be easily strained; the residue is washed with 45 per cent. alcohol, strongly expressed, and is then almost inert and but slightly bitter. The alcohol is regained by distillation and the extract left on evaporation (4½ lbs. from 20 lbs. root) is rapidly and completely soluble in water, separating but few floccules on standing. Thus prepared, very little pectin remains in the extract, it not being completely insoluble in diluted alcohol; but aside from the rapid solubility, the extract has no pasty consistence and is not liable to mould. The same process is applicable to other extracts.—(Archiv d. Ph. cvii. 294–298.

CASTOR.—Dr. F. G. Geiss reports that the beaver is still found in the neighborhood of Aken, on the Elbe, Germany, and that he has found the following method best for the preparation of castor: The sacs are carefully removed from the recently killed beaver, and freed from all adhering fat; the open end is loosely tied, and the sacs then subjected to moderate and gradually increased pressure to expel gases. As soon as the membranes adhere closely to the contents, they are repeatedly painted over with wood vinegar, and the weights are afterwards removed. Any gas still contained in the bag is expelled by puncturing the place with a pin; the bags are again pressed for 24 hours, the punctures are closed by a little collodium, and the whole left to dry in the open air, which is accomplished in from one to two weeks. The loss in weight is about one fourth of the original. The complete expulsion of the gas is necessary to prevent partial decomposition. Only the full grown male beaver yields a hard and rapidly drying castor; that of the female is softer, more difficult to dry, and notwithstanding all precautions, remains soft in some places.—(Archiv der Pharm. cvii. 306–308).

TIMA, A NEW REMEDY FOR CONSUMPTION, comes from Tampico, Mexico, and is used in the form of syrup, prepared by boiling the fruit, together with the seeds of Crescentia edulis, Derv., with sugar, and adding a little oil of almonds. Professor Walz analyzed the fruit, and found butyric, acetic, tartaric and malic acids, resin, sugar, gum, pectin, humin and lignine; the ashes contain potassa, soda, little lime, phosphoric acid, magnesia, alumina.—(N. Jahrb. d. Ph. xv. 426.

Bibliographical Notices and Reviews.

The Pathology and Treatment of Venereal Diseases: including the Results of Recent Investigations upon the Subject. By FREEMAN J. BUMSTEAD, M.D. With Illustrations on Wood. 8 vo. pp. 686. Philadelphia: Blanchard & Lea, 1861. (Sold by J. H. Riley, Bookseller, Columbus, Ohio.)

This is a work of which American Medical Literature has reason to be proud, and one which, on the subject on which it treats, will take rank and precedence of all others, either on this or the other side the Atlantic.

Few persons could be found, whose reading and clinical experience would enable them to bring a greater fund of knowledge to bear upon the many knotty points involved in the discussion of venereal diseases, than our author; and that he has acquitted himself in a manner which will render his book a lasting monument of the American press, and secure the perpetual gratitude of his readers, will be readily assented to.

A work of this kind, it must be conceded, has long been a great desideratum. The far-seeing, philosophic mind of the immortal Hunter, enabled him to grasp and reconcile many of the difficulties in which preceding and contemporaneous syphilographers had involved themselves; but it has been mainly to the continued and carefully conducted observations and experiments of the French School, that we are indebted for the present advanced and rational views of the disease.

Since the publication of Ricord's valuable treatise on venereal diseases, no considerable work has appeared, nor any one which could be properly regarded as the true exponent of the teachings of medical science on this subject. Since then a period of ten years has elapsed—years of unexampled activity of mind in every direction—accumulating a vast store-house of medical facts, existing in monographs, and scattered over the pages of periodical medical literature.

Dr. Bumstead has availed himself of these rich sources of knowledge—and brought, withal, his own ample experience—in unraveling the apparent mysteries of the subject; has succeeded in bringing order out of chaos, and in presenting the whole matter in such a clear, simple and intelligible manner as to divest it almost entirely of either obscurity or difficulty. In fact, Dr. Bumstead's book may be taken as containing what is *known* and *taught* on the pathology and treatment of venereal diseases at the present day, and as such, commends itself to every one who has any ambition to be found in the advance column of his profession.

On the subject of Gonorrhœa and its complications, which occupies the first half of the work, not much that is novel, either in the treatment or the nature of the disease, is advanced. Dr. Bumstead insists, however, at some length, on the fact that gonorrhœa originates frequently from other causes than intercourse with women affected with the disease: in coitus for instance, just after or immediately before the menstrual period; or with women suffering from leucorrhœa, and in a few instances, where nothing abnormal can be discovered in the female organs of generation, and the disease can only be attributed to the irritant character of the vaginal or uterine secretions.

"I have been convinced," he says, "by a somewhat extended observation, that gonorrhœa, originating in this mode, is of very frequent occurrence; of one thing I am *absolutely certain*, that gonorrhœa in the male may proceed from intercourse with a woman with whom coitus has for months, and even years, been practiced with safety, and this, too, without any change in the condition of her genital organs, perceptible upon the most minute examination with the speculum."

In this opinion he is sustained by Ricord, Diday, Fournier, and others of equal authority, who, it might well be supposed, are not ignorant of the many sources of error which might render such a conclusion fallacious.

Ricord says: "If we investigate with the greatest care the exciting causes of gonorrhœa—and I am now speaking of the most characteristic cases of the disease—we cannot help admitting a gonorrhœal virus is absent in the majority of cases. Nothing is more common than to find women who have occasioned the disease, unsurpassed in intensity and persistence, and attended with the most serious complications, and who are yet only affected with uterine catarrh, which is sometimes hardly purulent."

Diday says: "A man should never forget that gonorrhœa may be contracted from any woman; and I say *woman*, and *not* any *prostitute.* I do not except from this uncivil remark any member of the gentle sex."

Fournier "thinks it less frequently contracted from contagion than from excessive coitus, repeated or prolonged sexual congress, or peculiar excitement during the act."

These opinions of the above authors, given at greater length, with that of numerous others, are cited by Dr. Bumstead to impress the reader with the grave importance of the subject, and the fearful responsibility resting upon the surgeon when passing judgment upon the virtue of a woman, and thus affecting her reputation for life, as well as the happiness of others with whom she is connected.

He insists that in all cases the woman should have the benefit of any doubt which may exist, and that no morbid apprehension of being imposed upon the patient, nor any hastily expressed opinion, should be blindly persisted in by the physician, when there is any risk of convicting an innocent person.

In the treatment of gonorrhœa, Dr. Bumstead admits the possibility of successfully practicing the so-called abortive plan; that, however, to be successful, the conditions upon which its success depends must be present. That the symptoms must not have become acute; that the discharge must be slight, and chiefly mucous; and little or no scalding of the urine obtain. Also, that the whole diseased portion of the urethra must receive a thorough application of the injection, and that as soon as sufficient artificial excitement has been produced, the injection must be suspended.

A failure to appreciate the importance of these several propositions has no doubt been the source of frequent disappointments, and sometimes even worse; and has tended to bring upon the plan of treatment the severe condemnation which justly attached to an unskillful or ill-judged application of it.

In carrying it into execution, Dr. Bumstead prefers the frequent injections of weak solutions to that of stronger ones used but once or twice; he usually uses a solution of the following:

℞. Nit. Argenti, gr. i—iss;
Aquæ Dist., ℥iv. M.

The manner of using it is perhaps the most important of all. For the benefit of those who may not see the work, we copy this at full length.

"The patient should be made to pass his water immediately before injecting, or, better still, a quarter of an hour before. We wish to clear the urethra of matter, and to have the bladder empty, so that the injection may have some time to act before it is washed away by another passage of urine; and yet a short interval between the last act of micturition and the injection is advisable, in order that as much of the urine as possible may be drained from the canal, and little be left to decompose the nitrate of silver. The prepuce should now be fully retracted, and the glans penis exposed. The latter should be wiped dry, so as to afford a firm hold to the thumb and finger of the left hand, applied to its opposite sides, and firmly compressing it around the point of the syringe, introduced to its full extent within the meatus. If this pressure be properly made, not a drop of the solution will be lost, as the piston of the syringe is slowly forced down by the forefinger of the right hand holding the instrument, and the whole contents will be discharged into the canal. The syringe should now be withdrawn, and the fluid still retained for a few seconds by continuing the compression of the glans. When the injection is allowed to escape, it will be found to be of a milky white color. This is due to the partial decomposition of the contained salt by the remains of the urine and the muco-pus of the canal. As this decomposition has prevented the application of the injection in its full strength to the urethral walls, a second syringeful should be thrown in, and retained two or three minutes. During this time, a finger of the disengaged hand should be run along the under surface of the penis, *from behind forwards,* so as to distend the portion of the canal occupied by the injection, and insure the thorough application of the fluid to the whole mucous surface."

It will be obvious that the above applications should be made by the surgeon himself, in order that they may be efficient. If the patient, however, is intelligent and somewhat skillful, they may with safety be entrusted to him, after very special directions. These injections should be repeated every two or three hours, until the discharge, from being thin and mucous, becomes copious and purulent, and finally grows thin and watery, and sometimes slightly tinged with blood. This usually requires a period of twenty-four or thirty-six hours, during which time it is well to have prescribed an active cathartic. All medication should now cease; and if the treatment has been successful, all the symptoms will disappear in four or five days.

The further treatment laid down by our author for the various stages, complications, and accidents of this troublesome and ofttimes truly perplexing disease, are given with great minuteness and clearness, interspersed with many valuable formulæ for injections and anti-blennorrhagics, as well as valuable hints for hygienic and dietetic management.

The concluding remarks on the treatment of gonorrhœa proper may afford some aid and comfort to country surgeons and junior members of the profession, who are frequently much annoyed at the obstinate persistence of the disease, and unpleasant reflections by the patients.

Dr. Bumstead says: "The reader may be interested to know what is the average duration of treatment required, in the hands of the best surgeons, for the cure of gonorrhœa, laying aside those cases which are seen in the first stage, and which are speedily cured by the abortive method. *This may be estimated at from three to four weeks.* Greater success, on the average, is probably not attainable by any means with which we are at present acquainted."

We defer our remarks on Part II. until the next number.

R. M. D.

On Military and Camp Hospitals, and the Health of Troops in the Field. Being the Results of a Commission to inspect the Sanitary Arrangements of the French Army, and incidentally of other Armies, in the Crimean War. By L. BAUDENS, Inspector and Member of the Council of Health of the French Armies; formerly Surgeon-in-Chief and First Professor of the French School at Val-de Grace. Translated by F. B. HOUGH, M.D., late an Inspector of the U. S. Sanitary Commission. New York: Bailliere & Brothers, 440 Broadway.

Jean-Baptise-Louis Baudens, the author of the volume before us, has quite a large experience in army service. In 1857 he served in the medical corps of the French army in Algeria, where he gave clinical lectures. Afterwards he served in the hospitals of Lille, Strasburg, and Paris. He became also surgeon-in-chief of the military hospital of Val-de-Grace in Paris. On the 25th of July, 1855, he was appointed medical inspector to the French army in Corsica, Italy, and the Crimea, and his subsequent history is detailed in this volume. Returning to France, he prepared the volume before us, in an English dress. Having contracted the seeds of disease by his uncommon labors in the hospitals of Constantinople and the Crimea, he died from cancer of the liver, on the 27th of January, 1858.

Marshal Valliant, Minister of War, instructed Monsieur Baudens very fully, that he might turn to account the information derived from an inspection of military and field hospitals, and have the establishments of the French for restoring health in the East compare with those of previous wars.

The work is divided into three parts. Part I. THE CAMPS. Part II. THE FIELD HOSPITAL AND MEDICAL SERVICE. Part III. THE HOSPITALS AND THEIR DISEASES—TYPHUS IN THE CRIMEA.

Under the head of Camps, we have: Chap. I. Medical Topography of the Crimea. Chap. II. Rations. Chap. III. Camps and Shelters. Chap. IV. Clothing.

Under Field Hospital and Medical Service, we have: Chap. I. Infirmaries and Field Hospitals. Chap. II. Surgical Operations. Chap. III. The Physicians—Chloroform.

Under Hospitals and their Diseases—Typhus in the Crimea, we have: Chap. I. The Cholera. Chap. II. Hospitals at Constantinople. Chap. III. Scurvy and Typhus. Chap. IV. The Return of the Army.

Besides the above, we have an *Appendix*, embracing—1. Economy in the use of linen for dressings. 2. Alimentary regulations for the sick in the Sardinian army. 3. Summary of immediate amputations performed in the Crimea, received and treated in the hospital Gulhave at Constantinople. 4. Observations on several comminuted fractures of the thigh by bullets, resulting in cure when treated with Bauden's fracture-box. 5. Fractures of the femur, caused by projectiles, etc, 6. Observations collected by M. Beaufils, Aide-Major Physician. 7. Report by Mr. Thomas, Physician-in-Chief, upon the sanitary condition of Constantinople during the month of June, 1856. 8. Instructions relative to the establishment of a depot of convalescents in a part of the camps at Maslak. 9. Report of Dr. Marcet, chief of the medical service at Colchi. 10. Report to the Minister of War.

We have given the above synopsis of this volume, that the reader may form some estimate of the character of the questions discussed. The Crimean war was fruitful of many things that ought to be turned to our account. The French and English have been moving their civilization along in a way that has made peace seem to be almost the abnormal condition. As a consequence, military surgery and military medicine have been largely the result of the labor of these two nations. The book before us, besides its purely professional information, contains much that proves how carefully these nations have provided and guarded things medical.

We have space for but a few extracts.

ALIMENTARY REGULATIONS OF THE SICK IN THE SARDINIAN ARMY.

"The following table shows the common rations of each meal (at 10 o'clock in the morning and four in the afternoon) in the Sardinian army, and was furnished to me by M. Comzetti, Chief Physician of the Piedmontese army corps. It is here inserted as a document worthy of examination:

	Oz. bread.	Oz. baked meat.	Oz. pie or vermicel.	Oz. rice.	Oz. bread for soup.	Pints broth.	Pints wine.
Diet	....	....	1.32	1.76	3.52	0.48	....
Quarter ration	2.20	0.70	1.32	1.76	3.32	0.48	1.18
Half ration	4.40	1.40	1.32	1.76	3.52	0.48	0.36
Three-quarter ration	6.60	2.10	1.32	1.76	3.52	0.48	0.36
Ration	8.80	2 80	1.32	1.76	3.32	0.48	0.36

The ration of meat for a day is only 0.55 lbs., while in the French hospitals it is double that quantity. It would not be enough to maks a good broth; but they add, like the English, the juice of preserved meats, called "essence of beef." The distribution of food commonly takes place twice a day, at ten in the morning and at four in the afternoon. Besides these rations, the patients receive, at eight o'clock in the morning, if prescribed by the physician, some soup, coffee, with or without milk, a milk soup, or some chocolate; but this distribution is not general; it extends only to those of the sick who appear to need it.

The rigid diet includes only broths and jelly broths. The common diet is composed of soups in the following order of gradation: a half soup, morning and evening, two, three, and even four soups, if the physician prescribe them, or rather two soups, and coffee, alone or with milk, a milk soup, or chocolate. The soups of the diet are made at the option of the physicians, either with farinaceous ingredients, like vermicelli and semoulia, or of broken bread.

Besides the articles above enumerated, they have a number of kinds that they term extra-ordinary, which enter into the daily distribution, and will be mentioned when we come to notice the other elements of their rations.

The common quarter ration is composed of two or three soups, and the quantity of bread, meat and wine stated in the table. With the quarter ration they may allow the patient the eight o'clock morning meal, with all the varieties above stated. With the quarter of the ration, the boiled meat may be replaced by chicken, veal or mutton, or by vegetables, such as potatoes, spinach, carrots, cabbages, turnips, etc., according to the season. They may also add two poached eggs, and 0.44 lbs. of cooked fruits or marmalade.

The two gills of *vin ordinaire*, usually added to the quarter ration, may be replaced by the same quantity of some generous wine, such as Bordeaux, Malaga, etc.

The half ration is composed of two soups, to which may be added for breakfast, at eight o'clock, another soup, coffee with milk, or chocolate, besides the quantity of bread, meat and wine given in the table. The half ration of boiled meat may be also replaced by a half ration of ragout, fowl, gelatine, veal, or roast mutton, or by half a ration of vegetables; but it excludes dried fruit and marmalade, whose distribution here forms an exception, and is only allowed in certain particular cases. Wine may be substituted in the same manner as in the quarter ration. The half ration of meat may be divided into two quarters, as, for example, a quarter of ragout and a quarter of vegetables.

The three-quarter ration usually remains as in the table, but in exceptional cases, a soup, coffee, alone or with milk, chocolate, and the quantities of bread, meat, and wine, given in the table, may be added as breakfast. The three-quarter ration of boiled meat may be replaced only by a three-quarter ration of veal, mutton, ragout, vegetables, or salad, fowl and gelatine being excluded. It may also be subdivided into a half ration or ragout, and a quarter of vegetables, or the converse.

The entire ration consists of the quantities of bread, meat, and wine, mentioned in the table. In the Crimea, in consequence of the inferior quality of the meat, and the special wants of the sick, it was permitted to add an extra ration of vegetables to that given in the table. Potatoe and fresh lettuce salads were, in consequence, often ordered for the scorbutic patients."

DEPOT FOR CONVALESCENTS.

We have the following instructions relative to the establishment of a Depot for Convalescents in a part of Camps at Maslak :

"1. *Organization.*—The canvalescents shall be divided by sections and arms, as much as possible, the effective maximum being 200.

2. The sections shall be commanded and managed by lieutenants, or sub-lieutenants, having under them sub-officers and corporals. They shall each be taken from among the convalescents, or in default of these, from the 84th line, which regiment shall always furnish for each section the sub-officer and corporal, who shall perform the duties of sergeant-major and quarter-master.

3. A captain, selected from the 84th, shall exercise supervision over the officers of the section in all that relates to discipline, internal police, orderlies, etc., and shall sign for the various sections such papers as orders for purchase, bills, etc. He shall be responsible to the council for the administration of the corps, with whom he is to confer directly, with regard to administrative affairs.

4. *Administration.*—The sections shall be placed under the general supervision of a superior officer, taken from the 84th, who shall direct the general service, secure a proper discipline, and employ the captain as his intermediary for transmission of his orders.

5. *Interior Regulations.*—Each section shall form an administrative unity, in the same manner as the companies of a corps.

6. The sections shall mess separately.

7. The mess expenses shall be the same as in the regular army corps. There shall be added a supplementary sum of five centimes (a cent) a day, which shall be devoted exclusively to the purchase of fresh or preserved vegetables.

8. There shall be allowed to each sub-officer and soldier present, including those charged with the command, a ration of wine daily, in addition to the regular ration of sugar and coffee.

9. The ration of provisions shall consist exclusively of bread, fresh meat, rice or dried vegetables, salt, sugar and coffee, at fixed prices, and the fixed allowance of fuel.

10. The additional ration of wine shall be distributed one half at each meal.

11. The ration of sugar and coffee shall be issued at about eight o'clock in the morning.

12. *Barracks and Encampments.*—The convalescents shall be placed in barracks instead of tents, and these shall be furnished with stoves.

13. To each man there shall be allowed a mattress and a bolster, which shall be placed upon the camp beds.

14. In the absence of camp beds, trestle bedsteads of wood shall be furnished.

15. The men shall be provided with camp blankets.

16. The utensils and other furniture for this service will be furnished from the public stores, upon the order and responsibility of the corps to which the men belong.

17. *Sanitary Service.*—The sanitary service shall be trusted to a physician of the grade of major, who shall be designated by the chief physician of the service of the hospitals at Constantinople. He will be assisted by one or more aides-major, according to the want of the establishment.

18. The men shall be taken out to walk, according to the direction of the chief physician, who shall limit the time, and if need be, shall cause the feebler ones to be attended by an aide-major.

19. A sanitary visit once a week; and those who are deemed able to rejoin the service will be sent to their corps. Pleasant days are to be selected, as far as practicable, for sending them off.

20. Such men as prove to be incapable of complete recovery at the depot of convalescents, may, according to circumstances, be sent to the hospitals, or may be allowed sick leave, or be sent to the depot of their corps. In these two latter cases, the major-physician charged with the duty shall furnish certificates of visit, which visit shall be made by the chief physician of the health service, in the presence of the brigadier-general.

21. The barracks shall be warmed only when the major-physician may deem it necessary.

22. One or more barracks shall be placed at the service of the major-physician, to be used as a regimental infirmary.

23. The medicines and dressings necessary for use in the infirmary, shall be supplied from the public stores, to be charged against the funds of the corps that may require them.

24. *Formation of the Depot—Sending to the Hospitals.*—The depot for convalescents shall be opened on the first of February next, and instructions shall be issued in time to enable the chief physician of the hospital service, and other accountable officers, to select and send to Maslak such men as they may deem proper to be admitted. Those whose duty it is to report lists of names, shall indicate the number of the regiment, the christian and family name, and the rank, and they shall be classified as infantry, cavalry, artillery, and engineers, and other arms. These lists shall be addressed to the military intendant, on the 28th instant, and shall be at once sent to the general commanding the military division.

25. The hospitals shall send their men, upon the first formation of the depot, in the following order:

February 1. Pera Dolma-Batche Military School and Parade-ground Hospitals.
" 2. Gulhane and the University Hospitals.
" 3. Daoud-Pacha Maltepe and Kamis-Tchifflick Hospitals.

26. The first formation shall embrace a section for each arm, and, if need be, two from the infantry.

27. The sections shall form a single series of numbers, and the designation of the arm shall be added to the number of each section.

28. After the formation, the hospitals shall send only upon certain days of the week.

29. The selections shall be made by the chief physician, at least forty-eight hours before sending. Lists, including details mentioned in article 24, and arranged according to the arms, shall be sent to the chief of the staff on the day before the day designated for the removal, in order that the commander of the depot may be prepared in time.

30. Such men as are known by the major-physician to be unable to walk the distance, may be sent in chairs or arabas, according as may be most convenient.

31. In all cases the administration will take charge of the transportation of all property belonging to the men, sent to the depot.

32. Each man sent by the hospitals to the depot shall be furnished with a ticket of discharge, which shall be at once sent to the major-physician, and by him returned to the men when they are sent to the stations of their corps. The tickets of the men entered at the hospital or sent to France, shall be lodged with the captain performing the duties of military sub-intendant, who shall forward them to the smaller depots of the corps, at the same time notifying the depots of the present location of the men."

In the present war we have had enough of experience with the sick and convalescents to indicate the erection of just such establishments as the above. After, for example, such a battle as took place at Shiloh, the disabled are of several varieties. Some are seriously wounded, others slightly; others sick from exposure, while a pretty large number are unfit for service, from temporary indisposition of various kinds. From these different classes occupying hospitals, *convalescents* soon make their appearance, soldiers not sick enough to remain in the hospitals, and yet not well enough for service in the field. At present we have no establishment looking to the care of this class in our army arrangements, and, as a consequence, furloughs are obtained and the soldiers wander over the country, either at their own or government expense, trying to make their way home.

This state of things we have at the present time, and from what has been stated, its influence upon the army in the field, not less than upon the parties themselves, has been unfavorable. Experience proves that it is best that the sick and wounded of the army be kept with it, especially the convalescents. The *organization* of such establishments, if the present war is to continue, should be entered upon at once.

Another matter akin to the one just noticed, is the

Scarcity of Surgeons just after a great battle.

A half day's battle sometimes sends to a hundred physicians in the field hospitals, six or eight thousand wounded at a time. What can they do? But little indeed to meet the exigencies before them. Our wounded, as a consequence, after such battles, have had to lie on the field for days without even as much as the attentions of a nurse. At best the physician could not even place a single compress and bandage upon each wound, much less perform on each one the surgical operation indicated.

To supply this want there was created in the Crimea a class of attendants of subordinate grade, who rendered very important services. Among the convalescents were found men of education, bachelors of arts, etc., etc. These were retained for the purpose of assisting physicians, and were called "*soldier-dressers.*" The best physicians in the service at Constantinople were loud in their praise of this class of auxiliaries. When the typhus made such ravages that it was feared the army would be left without physicians, it was by the services of the "soldier-dressers" that a triumph was obtained over the serious difficulty. These subalterns evinced a care, zeal, and aptitude that couldscarcely have been expected. They were entrusted with the care of the visiting pass-books, the distribution of the food and medicines prescribed, the application of simple dressings, poultices, blisters, and similar services.

In the Russian army, "*Felchers*" take the place of these "soldier-dressers." They rank as sergeants, are a permanent class, and are usually recruited from among the orphans of soldiers dying in the service of the Empire. The government brings them up and gives them a crude education in surgery and military hygiene. In the hospitals of that country there is one "Felcher" to every seventy-five sick.

We have a summary of amputations, *immediate* and *delayed*, presented by the author. The tables show at once the great advantages in favor of amputations performed immediately after the wound over those in which a considerable length of time has elapsed.

The English reports are equally in favor of early amputation from severe injuries by gun-shot wounds. McCleod in his "Notes on the Surgery of the Crimean War," noticed in the Journal some months since, has collected facts showing that 1,288 cases of the greater amputations in various wars from gun-shot wounds were followed by death in 396 instances, while 902 secondary amputations were followed by death in 586 cases. The per centage of 30.7 in the former and 67.9 in the latter, nearly agrees with the experience of the Russians in the Crimean war, their loss being one-third of the primary and two-thirds of the secondary.

A comparison, to some considerable extent, of amputations with *Resections*, show very much in favor of the latter.

McCleod in his work on the Crimean war states that chloroform was very generally used, with but a single accident, while a great number of operations were successfully performed which would not otherwise have been attempted. The *morale* of the wounded was better sustained, and the courage and comfort of the surgeon increased.

The French surgeons also very generally gave chloroform in the Crimea. They supposed that by subduing pain, chloroform produced a mental calmness and tranquillity very favorable to recovery. It was also thought that it deprived the traumatic fever of an excess of reaction.

> "But, used imprudently, this agent, while it takes away suffering, also may take away life. It shares this sad privilege with the most potent remedies. Taken in large doses, they are for the most part poisonous, and kill instead of curing. The danger may perhaps be certainly avoided by observing certain rules, and especially by not pressing the inhalation to its extreme limit. This extreme limit is, in my opinion, when, in accordance with the precept laid down for several years, we pass the stage of *insensibility*, and reach that of *collapse* and a complete muscular prostration. This condition is reached when a limb is lifted up and falls like a mass of dead matter, for then *life almost borders on death;* it has retired into the vital centre, the medulla oblongata, at the origin of the eighth pair of nerves. * * * To approach this point is rash temerity; to reach it is death. * * * We ought always to stop when insensibility is reached; it is enough for the patient that the pain is alleviated."

We have quoted the author fully, because we regard his observations as eminently plausible, and that our surgeons in service, who may see this number of the *Journal*, may be prepared with good suggestions in regard to the use of chloroform. There may be a little speculation about the point in the nervous centres upon which chloroform especially exerts its force when it causes death. Still, the fact that the medulla oblongata is the source of the nervous power that keeps up respiration and circulation, since the conclusive experiments of Flourens, cannot be doubted. We have also quoted the author, that those who use chloroform freely in almost every variety of cases, and especially in obstetric practice, may be fully informed of how near, in many instances, they may carry their patient to the verge of the dangerous, merely for the purpose of disposing of a temporary or unimportant trouble. Chloroform, in grave wounds, where the patient is in danger of exhaustion from the shock, or loss of blood, or mental excitement, is, without doubt, justifiable. But in the ordinary operations of surgery, or in obstetrical practice, for the purpose of getting rid of pain, its use is very questionable.

We must here close our notice of this little volume, and, in so doing, would recommend it cordially to the profession. The surgeons now in service in the army, a class for whom it has been more especially written, will find its perusal both agreeable and profitable.

Editorial and Miscellaneous.

Ohio State Medical Society.

This body convened at White Sulphur Springs, on Tuesday, 17th inst. The attendance was very fair for the times. The session lasted two days, and the proceedings will show the usual amount of business.

But one essay was offered for the prize. This was written by Dr. C. Culbertson, of Zanesville. The essay discusses the subject of Anæsthetics in Midwifery. To some extent the essay is founded on experiments by the author. From what we learned, the utility of chloroform is pretty freely advocated, and suggestions are given of the kind of cases benefited by its administration.

Prof. Blackman presented a synopsis of his Report on Surgery. Not enough was read to judge of its merits. From what, however, is known of the author's learning and experience, a very fine performance is expected.

The Report on Medical Literature was written by Dr. Reeve, of Dayton, and read by Dr. Armor, a member of the committee.

Prof. M. B. Wright, the President of last year, gave his valedictory on the "Medical Aspects of the Rebellion." We were at a loss to comprehend the "scope" of the paper. Quite a variety of questions were discussed touching the war, its causes, complications, and probable results; the false counsels and ignorance that have obtained; climatic influences; necessity of the times for statesmen, instead of politicians; differences, radical, between the people of the two sections, etc., etc. The paper wound up by asking the very important question—How can the rebellion be subdued? Doctors being expected to know everything, of course it was right to ask them such a question. The paper, like what generally proceeds from the author's pen, is smoothly and handsomely written.

The usual number and variety of resolutions were offered, and about the usual number of speeches made.

The Society was very well entertained by the proprietors, Messrs. Emery & Warden; and, after two days' session, adjourned, to meet next year at the same place.

Sixteenth Annual Session of the Ohio State Medical Society.

Reported by E. B. Stevens, M.D., Secretary.

OHIO WHITE SULPHUR SPRINGS, June 17, 1862.
10 o'clock A. M.

The Ohio State Medical Society met in the public hall, prepared for the use of the Society on this occasion, and was called to order by the President, Dr. M. B. Wright, of Cincinnati.

Neither of the Secretaries being present, Dr. E. B. Stevens, of Cincinnati, was appointed Secretary *pro tem.*

The President called for the report of the Executive Committee, but none of that committee being present, it was, on motion, agreed to adopt the order of business of last year.

On motion, the reading of the minutes of last year was omitted.

On motion of Dr. Kincaid, the President was directed to appoint a committee of five to nominate officers for the ensuing year. Drs. Kincaid, Reamy, Gans, Reisinger and Gordon were appointed that committee.

The committee on Admissions reported favorably on the names of Drs. J. T. Wood, of Williamstown; J. W. Brady, of Linnville; Roland Cadwallader, of Springfield; Chas. C. Cooke, of Youngstown; Henry W. Owen, of Mt. Vernon; Wm. Hays, of Milfordton; Alex. McBride, of Berea; A. F. Joseph, of Cumminsville; and P. J. Beverly, of Frankfort—all of whom were duly elected.

The committee on Nominations made their report, and the Society proceeded to ballot, with the following result:

President—J. W. Russell, M.D., of Mt. Vernon.

Vice-Presidents—G. C. Blackman, M.D., of Cincinnati; G. W. Boerstler, M.D., of Lancaster; J. M. Southard, M.D., of Marysville; B. S. Brown, M.D., of Bellefontaine.

Secretaries—E. B. Stevens, M.D., of Cincinnati; T. B. Williams, M.D., of Delaware.

Treasurer—John Thompson, M.D., of Columbus.

Librarian—R. Tompson, M.D., of Columbus.

Committee on Admissions—Drs. Kincaid, Reamy, Gans, Gordon, and Reisinger.

Drs. M. Dawson and Patterson were appointed a committee to wait upon the President elect, and escort him to the chair.

Upon taking his seat the President made a few appropriate remarks, acknowledging the compliment paid by the State Society in selecting him to preside over its deliberations for the ensuing year.

On motion of Dr. Kincaid, the address of the retiring President was made the special order for to-morrow afternoon, at 2 o'clock.

The President called the standing committees.

Dr. Boerstler, chairman of the committee on Uterine Diseases, apologized for inability to make a full report; and, on motion, the committee was continued for another year.

Several committees announced their presence, and readiness to report during the session.

Dr. Wright made a statement concerning the condition of his report on Obstetrical Surgery; and, on motion of Dr. Landon, discretion was granted Dr. Wright to report at the present session, or be allowed another year.

The Society took a recess until 2 P. M.

TWO O'CLOCK P. M.

The President, Dr. Russell, in the chair.

The committee on Admissions presented the names of Drs. S. O. Almy and George Fries, of Cincinnati, who were elected.

On motion of Dr. Landon, the making of Dr. Wright's address the special order for two o'clock Wednesday, was reconsidered and set for 10½ o'clock forenoon.

The Treasurer, Dr. Thompson, made his annual report, which, on motion, was referred to the committee on Finance.

Dr. Armor, from the committee on Medical Literature, proceeded to read the report of that committee, which had been prepared by Dr. Reeve. On motion, the report was referred to the committee on Publication. Pending the reference, the report was briefly discussed by Drs. Kincaid, Reamy, and others.

Dr. Wright, from the committee on Prize Essays, stated that but one essay had been submitted to the committee, which would be reported on at an early hour.

On motion, adjourned until 9 o'clock to-morrow.

SECOND DAY.

WEDNESDAY, June 18, 1862.

The Society met, the President, Dr. Russell, in the chair.

The minutes of yesterday were read and approved.

The committee on Admissions presented the names of Drs. T. P. Gruwell, of Damascoville; F. M. Andrews, of Dayton; W. H. Matchett, of Ithaca; E. Hyatt, of Delaware; A. H. Thompson, of Circleville; P. H. Clark, of Ashland—all of whom were duly elected.

Dr. Kincaid, from the committee on Finance, presented the following report:

To the Ohio State Medical Society—

The committee on Finance, to whom was referred the report and vouchers of the Treasurer (Dr. John B. Thompson), repectfully report that we have carefully examined the same, and find his accounts correct as reported to the Society; and the entire indebtedness of the Society is $45 81.

Your committee would recommend the assessment on each member, for the present year, of *one dollar*, to pay its present indebtedness and defray its annual expenses.

Respectfully submitted,

W. P. KINCAID,
G. W. BOERSTLER,
C. P. LANDON.

Drs. W. H. Matchett, of Darke county, and C. Falconer, of

Butler county, presented their certificates as delegates from their respective societies, and took their seats.

Dr. M. B. Wright, from the committee on Prize Essays, reported that in the absence of Dr. Rogers, of Springfield, a member of that committee, Dr. Reisinger was appointed to fill the vacancy; and that only one essay had been submitted to the committee, but upon its examination the committee regarded it as well worthy of the prize medal which had been offered by the Society—and they accordingly so recommend. Upon breaking the seal of the accompanying note, it appeared the author was Dr. H. Culbertson, of Zanesville.

On motion, the committee on Prize Essays was requested to have a gold medal prepared in accordance with the original resolution, to be presented to Dr. Culbertson at the meeting of 1863.

Dr. Landon offered the following resolution:

Resolved, That it be the duty of each member of this Society, upon the death of any member of the Association in his community, to forward to the committee on Obituaries such facts and information as will enable said committee to prepare a just and proper notice.

Dr. Blackman read a synopsis of his report on Surgery, which, on motion, was laid on the table for the present.

The following letter was read, from Dr. Dodge, chairman of the committee on Ethics:

The committee on Ethics beg leave to report that but one case of professional delinquency has been brought to their notice the past year.

The Montgomery County Medical Society notified the committee at the last annual meeting, that Dr. Oliver Crook had been expelled for unprofessional conduct. The committee informed Dr. Crook, by letter, that his case would be acted on at the ensuing annual meeting.

Respectfully submitted,

I. S. Dodge,

Chairman of committee on Ethics.

The communication was laid on the table.

The hour having arrived for the address of the retiring President, on motion, Drs. M. Dawson, Weber and Sweney were appointed a committee to wait upon the ladies and invite them to be present.

Dr. Wright proceeded to deliver his valedictory, announcing as his topic "The Idolatry of our People; or, the Rebellion in its Medical Aspects."

The delivery of the address was followed by considerable discussion, participated in by Drs. Murphy, Kincaid, Reamy, John Dawson, Wright and Falconer. Finally, on motion of Dr. Gordon, the address was referred to the committee on Publication, and, as amended by Dr. Thompson, with instructions to publish.

Dr. W. W. Dawson, of the committee on Publication, presented the following report:

The Publication Committee would make the following report: Two hundred and thirty-five copies of the Transactions of the Society have been published, at an expense of $149 61.

W. W. Dawson, Chairman.

On motion, report accepted.

Society took a recess until 2 P. M.

AFTERNOON SESSION.

Vice-President Blackman in the chair.

Dr. Gordon read a volunteer paper, giving an account of a case of hydatids of the uterus and disease of the left ovary.

On motion of Dr. Weber, the paper was referred to the Publication committee, with instructions to print.

Dr. Jno. Dawson offered the following resolutions:

1st. *Resolved,* By the Ohio State Medical Society, now convened at the White Sulphur Springs, that the President of the United States be requested to avail himself of the first opportunity to effect an exchange of prisoners of war.

2d. *Resolved,* That this Society fully appreciate the wisdom and humanity of the recent agreement of the authorities North and South, of regarding surgeons in service as non-combatants.

After considerable discussion, on motion, the first resolution was laid on the table, and the second adopted.

Dr. Plympton offered the following:

Resolved, That the publication of any address, prize essay, or other paper by this Society, is no evidence of its indorsement of the sentiments therein contained; and that this resolution be prefixed to the introductory page of each future volume of Transactions.

On motion, adopted.

Dr. Landon offered the following:

Resolved, That when this Society adjourn, it adjourn to meet at the Ohio White Sulphur Springs, on the third Tuesday in June, 1863.

Adopted.

Dr. Weber offered the following:

WHEREAS, The history of wars of all nations has proven that the dangers surrounding a surgeon on duty are far greater than those encompassing the soldier with a weapon of destruction in his hand—the mortality of surgeons being far greater in proportion than the mortality of officers on duty in the different grades of the army; and,

WHEREAS, That same history furnishes as noble examples of heroism of medical men on the bloody field of battle as ever the lives of true and great heroes can show; and,

WHEREAS, The fields where now the battles for our liberty and independence are being fought, daily witness the heroic conduct of our professional brethren, now surgeons in the grand army of the Republic, truly worthy of Paré, Larry or Strohmeyer; therefore,

Resolved, That a committee of three be appointed to draw up a memorial to the Governor of Ohio, asking him to use all his influence with the proper authorities, to place the medical man in the army on the same footing with officers of the same grade, as to brevets and marks of distinction for gallant conduct in the performance of his duty.

Resolved, That a copy of the above preamble and resolution be furnished to the Presidents and Secretaries of the different State Medical Societies of our country, with the request of co-operation.

The preamble and resolution were discussed at length by Drs. Weber, Wright, Boerstler, John Dawson, Johnson, and Dorsey.

Dr. Dorsey offered the following substitute for the resolutions of Dr. Weber:

Resolved, By the Ohio State Medical Society, that the Governor of the State be and he is hereby requested to use all his power and influence with the proper department, to give such efficiency to the corps of surgeons in our armies, both in respect to numbers and authority, as may enable them to perform their duties in caring for the health, and relieving the casualties of the soldier.

Adopted.

Dr. Weber then asked permission of the Society to withdraw the preamble presented by him. Granted.

Dr. Landon offered the following:

Resolved, That the Secretaries prepare a correct list of the names of members in attendance, and the same be published in connection with the Transactions.

Adopted.

On motion, Dr. Blackman's report was taken from the table and referred to the Committee on Publication, with instructions to publish.

Dr. Kincaid offered the following:

Resolved, That the thanks of this Society be and are hereby tendered to the retiring officers, for the able, dignified and courteous discharge of their several duties.

Adopted.

On motion of Dr. Davis, the report of the Committee on Ethics was taken from the table, and a committee, consisting of Drs. Davis, Armor and Reeve, were appointed to prepare charges against Dr. Crook by the next meeting of the Society.

On motion of Dr. Landon, it was—

Resolved, That the thanks of this Society be and are hereby tendered to the proprietors of the Ohio White Sulphur Springs, for the use of the fine and commodious hall prepared for the sittings of the Association, and for the kind and gentlemanly attentions received during our stay with them.

The President announced the following committees for the ensuing year:

STANDING COMMITTEES.

Executive.—T. A. Reamy, M. Dawson, T. B. Williams, P. Beaman, J. Davis.

Finance.—C. P. Landon, W. W. Dawson, J. S. Reisinger, E. L. Plympton, B. Raymond.

Publication.—E. B. Stevens, T. B. Williams, D. S. Gans, J. Helmick, S. O. Almy.

Medical Ethics.—T. W. Gordon, R. Gundry, W. P. Kincaid, G. W. Boerstler, B. S. Brown.

Medical Societies—R. Wallace, J. M. Snodgrass, T. A. Reamy, E. Gaston, M. Dawson.

SPECIAL COMMITTEES.

Surgery.—G. C. E. Weber, George Fries, J. W. Hamilton, M. Dalton.

Medical Literature.—H. Culbertson, T. A. Reamy, T. B. Williams.

Obstetrics.—D. S Gans.

Microscope.—G. C. E. Weber.

Uterine Diseases.—G. W. Boerstler, W. H. Reeve.

Obstetrical Surgery.—M. B. Wright, A. Wilson.

Practice of Medicine.—John A. Murphy, C. Landon, W. H. Matchett.

Obituaries.—C. P. Landon, J. Davis, T. W. Gordon.

New Remedies.—E. B. Stevens.

Legal Duties and Privileges of Medical Witnesses.—R. Gundry.

Insanity.—R. Gundry.

Asthma.—T. A. Reamy.

Delegales to the Indiana State Medical Society.—Blackman, Stevens, Beaman.

Delegates to the Kentucky State Medical Society.—Kincaid, Gordon.

On motion, adjourned to meet at the White Sulphur Springs on the third Tuesday in June, 1863.

JNO. W. RUSSELL, *President.*

E. P. STEVENS, } *Secretaries.*
T. P. WILLIAMS, }

BOOKS RECEIVED.—We have on our table, for future notice—

Gray's Anatomy. New edition. Second American, from the last London edition. Philadelphia: Blanchard & Lea.

A Practical Guide to the Study of Diseases of the Eye. By Henry W. Williams. A new work. Boston: Ticknor & Fields.

Barclay on Medical Diagnosis. Second American, from second London edition. Philadelphia: Blanchard & Lea.

Guthrie's Commentaries on the Surgery of the War in Portugal, Spain, France, and Netherlands, with Additions relating to those in the Crimea in 1854–1855. Sixth edition. Philadelphia: J. B. Lippincott.

The above works are all for sale in our bookstores.

Dr. Hayes.—This gentleman, who was charged with the care of the wounded after the battle of Port Republic, and was reprimanded and dismissed from the service for the alleged offense of going to bed in Washington after the arrival of the cars, and before the wounded had been properly provided for, is out in a card of self-defense, in which he states that the men and officers in his charge not only fully exonerate him from blame of any kind, but bear testimony to his faithfulness under circumstances the most difficult and trying. We should be very glad to find that Dr. Hayes has been sinned against in the summary dealings with him; for nothing could possibly strike the medical mind more unpleasantly than to hear that a charge of "gross neglect" was sustained against one of its members at a time when so much every way was at stake.

White Sulphur.—This place has again been selected for the meeting of the Society next year. We think well of the selection. Situated in a beautiful agricultural region, on the west bank of the Scioto river, the springs delightful to behold, the houses new and commodious, the proprietors attentive and fully up to the times in their way, the place has much to commend it, to those whose vocation knows not even the Sabbath-day for rest, as a point for spending a little time.

We were informed by the proprietors, Messrs. Emery and Warden, that they are prepared to accommodate a large number of visitors the present season. We should think those entrusting themselves to the care of these gentlemen at this watering-place, during our hot months, would be very favorably impressed. Dr. O. S. Almy, of Cincinnati, a gentleman of fine capabilities, will be the resident physician during the season.

STARLING MEDICAL COLLEGE.—We call attention to the advertisement in this number of Starling Medical College. As heretofore, it will commence in October, and continue until the first of March.

Possessed of all the modern facilities for teaching, this institution is fully prepared to impart a very thorough course of information.

The alumni of the institution, it is gratifying to know, have acquitted themselves very cleverly in the examinations through which they have passed for appointment as army surgeons.

THE OPHTHALMOSCOPE.—We learn from a letter in the *American Medical Times* that the ophthalmoscope is now in quite general use in English hospitals. We quote the following extract:

"I am very glad to find that in the ophthalmic hospitals of London and the provinces, as well as in the military hospitals and at Chatham, the *ophthalmoscope* is in general use, and highly appreciated. In no branch of our art have I seen such decided improvement within the last twelve years since I was here, as in ophthalmic surgery; and much of this progress is owing to our being able to explore the deep textures of the eye by the ophthalmoscope. This admirable instrument was nearly perfect when introduced a few years ago by Helmhoz; and now there is but one opinion as to its effectiveness, and to its immense importance in enabling us to investigate diseases, especially of an obscure nature, in this delicate organ. And what surprises me is to see the degree of tolerance of such examinations, in almost every kind of ophthalmic disease; a result we certainly should not have looked for *a priori.* Temporary dimness of vision may in some cases be induced by its use; but by a proper regulation of the quantity of light admitted into the eye, we may employ it with advantage in acute glaucoma, or even in retinitis. A metallic speculum is now preferred for the instrument, instead of glass, as it is more portable and less brittle, has a small, thin-edged sight-hole, and but one reflecting surface. Besides, a metal reflector always gives a clearer and better-defined image than a glass one. It is true that some experience is necessary to enable one to derive all the advantages from this instrument of which it is capable; but the same may be said of the stethoscope or any other instrument. *The division of the ciliary muscle* of the eye for glaucoma, opacity of the cornea, etc., may also be mentioned, as evidence of progress in the treatment of this class of diseases. This operation I saw performed several times, and very skillfully, by Mr. Hancock, of the 'Royal Westminster Ophthalmic Hospital,' and with decided benefit. Thus, out of 511 principal operations performed at this institution during the last year, I find that this operation has been resorted to in 118 cases. Of a variety of affections, about 1,000 patients are here annually treated, and there is no better place for students to study this class of diseases."

ARRANGEMENTS have been made to prepare for publication a "Medical and Surgical History of the War." The medical portion of this work has been committed to Assistant Surgeon J. J. Woodward, United States Army, and the surgical part to Brigade Surgeon John H. Brinton, United States Volunteers. All medical officers are requested by the Surgeon-General to co-operate in the undertaking by forwarding to his office such reports, etc., as may be of value for the work.

Clinical Remarks on the Treatment of Chorea. By DR. WILKS.

It is well known that there are fifty remedies against this disorder, and even more than this number may be discovered if it be worth while to collect them from medical writings; and yet those who have not the opportunity of witnessing the practice of others are well satisfied with their own particular remedy as the best, in consequence of having generally found it successful. Thus scarcely a week passes but we hear of some new medicine which will infallibly cure this disease; and even it is worth the time of the British Association to discuss the merits of some novel anti-choreal drug. All the while the believers in iron, zinc, belladonna, or galvanism, still exist. In Guy's Hospital iron was superseded by zinc; and then, according to Addison and Bird, both were inferior to galvanism. This, however, did not take a year to be forgotten, although lately revived by the French physicians.

Now, we think it would be tolerably evident to an unprofessional person, or to one unacquainted with the disease in question, that where a malady can be cured by so many remedies, it may be very well left to itself, and can be placed in the same category as hooping-cough and many other disorders which tend to a spontaneous cure. We had almost arrived at this conclusion when visiting some years ago the Paris hospitals, and discovering that at one time iron was the remedy; at another, no drug could equal strong coffee; and at another, that certain gymnastic movements, on the plan adopted at the "Hôpital des Enfans Malades," were quite sufficient to cure the disease.

It would appear to be true that tonics are useful, and that it is important to correct any morbid state of the alimentary canal. With this idea, the late Dr. Hughes had a favorite and very useful remedy, consisting of rhubarb steeped in port wine. All other medicines acting on these principles are beneficial, and we generally administer them. But in order to impress upon students the importance of attempting a rational treatment of disease, so that they may know with what purpose they are administering medicines, we have for some years past taken bad cases of chorea into the hospital, so that students might witness for themselves the fact of the spontaneous cure of the disease, in order to disabuse their mind of the false notion that iron and zinc *cure* the disease by an antidotal sort of action.

The result, we may remark, can scarcely be obtained except in a hospital, for the cure seems to depend upon the removal of all those circumstances which may have excited the disease at the onset and then perpetuated it, as well as upon the controlling the patient by the stricter discipline of an institution and the more correct regimen. Thus it is, that although amongst our out-patients recovery will ensue under the ordinary treatment in a certain time, yet this is often protracted, and sometimes even no benefit at all results. Under these circumstances, if the patient be admitted into the hospital, a change speedily takes place. We should state that as the hospital nurses are stanch believers in physic, we have been obliged to order the children a little colored or sweetened water. We append a few cases, in order to prove our position that chorea is a disease which tends to get well of itself, but is assisted in the process by tonic remedies, especially of the mineral kind. This we regard as absolutely certain, and appears, indeed, to be the only explanation of the numberless remedies which are in vogue to cure this disease.

Case I.—A girl, aged 15, had been ailing a month with symptoms of severe chorea, and had got so much worse during the last week that she was unable to stand, and was obliged to keep her bed. Her medical adviser, a very good practitioner, had treated her up to this time without relief. On admission, it was seen to be as bad a case as is usually witnessed. She was obliged to be placed in a bed with sides to it, for fear of her falling out. She was in constant motion, throwing her limbs about, the skin of which was knocked off on several parts, owing to the violence of the jactitation. She was ordered a little syrup and water, to be taken three times a day. After a short period she began to improve, was soon able to sit up in bed, then to walk, and finally she left the hospital quite well, exactly four weeks after admission; the usual time, it may be said, when the most highly-vaunted remedies are said to cure.

Case II.—Sophia B., aged 7, admitted May 6, 1858. Symptoms of chorea had been gradually coming on for two months, but she had still been able to walk about and go to school. Two weeks ago she fell down, when all the symptoms became worse. On admission, she was unable to stand, the jactitation was general, so that she was obliged to keep her bed. A slight systolic bruit existed. She was ordered syr. aurantii ʒss, tr. cardamom. c. min. v, aq. ℥ss, ter die.

On May 11th, a little better. On 14th, much better. After this she still improved, and on the 28th all movements had ceased. She then left the hospital, but was directed to take some steel mixture with her, thinking it might be of service, and not then interfering with the natural course of the disease.

Case III.—Maria H., aged 8, came into the hospital with the last-named patient, and left about the same time. Three weeks ago choreal symptoms came on without an assignable cause. A slight systolic murmur existed. Jactitations considerable, so as to prevent her doing any thing, although she did not keep her bed. She was a very intelligent child, but her father was a lunatic. She took no medicine, and in three weeks was quite well.

Case IV.—Emily J., aged 14. She had been ill two years with attacks of chorea, and had been an out-patient twelve weeks, taking several remedies, as zinc, iron, etc., without benefit. She was advised to enter the hospital on January 12, 1859. She took syrup aurantii ʒss, aq. ℥i, ter die, and at once began to improve. On February 1st she walked about, and was almost steady. In two more weeks she left well.

Several other cases of a similar nature might be mentioned, where the children recovered without the administration of any medicine. We remember two cases where colchicum was given, after strong recommendation, with good result; but probably the disease had only worn itself out.—*London Med. Times and Gaz.*

New Pessary.—Dr. B. F. Taft, of Blackstone, has shown us a pessary of his invention, which is quite novel in its design and seems likely to answer an excellent purpose. We are not fond of pessaries, and are very skeptical of prolapsus uteri. Very few of the women whom we have examined, who supposed they had "falling of the womb," were really suffering from this affection. We believe that most of the contrivances which have been and are still introduced for the relief of an imaginary or an exaggerated disease, are pernicious incumbrances. And then they are awful instruments in the hands of quacks. Still there are cases of genuine prolapsus, and for the relief of such we have seen no contrivance better than, if any as good as Dr. Taft's. The instrument is made in two parts. The upper portion may be described as half of a hollow sphere, the concavity being adapted to receive the os uteri, and the centre of its convex surface being provided with an opening for the escape of discharges from the uterus and for the application of injections. The other portion of the instrument consists of a cup-shaped extremity, to receive the above-mentioned hemisphere, which is prolonged in a hollow, narrow stem down to the outlet of the vagina, where it is attached to a plate, which is held in place by straps. The hemisphere is first introduced and applied to the os in whatever position it happens to be, and the cup below easily receives it, the whole apparatus being applied without the least violence to the organ. The two parts of the instrument play one within the other, adapting them selves thus to the position and movements of the body. By an ingenious contrivance the external end of the instrument also slides freely up and down in the supporting plate, and thus the whole apparatus acts as a perfectly firm, yet flexible supporter. The tubular character of the stem admits of a free application of injections to the os. The instrument is made of India rubber, thick enough for purposes of support, vulcanized with oxide of zinc instead of a salt of lead, by which the irritation sometimes caused by the usual combination is avoided. The whole contrivance is very ingenious and well calculated to answer the purpose designed in cases where it is needed; as indeed certificates in Dr. Taft's possession prove it to be.—*Boston Med. and Surg. Jour.*

Sulphuric Ether as an Anæsthetic in Military Surgery. By FREDERIC D. LENTE, M.D., of Cold Spring.

I send the following notes of the effects of sulphuric ether in military surgery as an appendix to the account of the Mill Creek Hospital, published in a previous number. The cases were not *selected*, but are such as we happened occasionally to have time and opportunity of noting accurately by the watch. In some of the cases, also, the ether was administered by those who had not previously had much experience in its use. Its effect was so prompt and unexpected to many that I was asked, on more than one occasion, if chloroform had not been mixed with the ether. It was, however, used in all cases just as it was furnished by the hospital steward from Squibb's package. At first, it was a question among the surgeons as to what anæsthetic should be selected; but, after ether had been tried a few times, no better anæsthetic was desired, and no other was used except on one occasion, through a mistake of the steward, on which occasion the patient was with some difficulty resuscitated, chloroform having been given with the usual freedom of sulphuric ether.

Trephining, time two and a half minutes, quantity an ounce and a half. Amputation of thigh, time five minutes, two ounces. Extraction of ball from head of tibia, two minutes, seven drachms. Amputation of thigh, two and a half minutes, ten drachms. Large incision of knee-joint, searching for ball, four minutes, twelve drachms. Amputation at knee-joint, three minutes, two ounces. Incision of infiltrated scrotum, half a minute, six drachms. Exsection of shoulder-joint, one minute ten seconds, ten drachms. Exsection of humerus, one minute two seconds, six drachms. Amputation of thigh, three minutes, twelve drachms. Amputation of thigh, four minutes, twelve drachms. Counter-opening in knee-joint, extraction of ball, three minutes, twelve drachms. Searching for ball in the thigh, large incision, three minutes, two ounces.

The above operations were witnessed by many well known surgeons of the State of New York. The time was noted in the first cases by Dr. Thomas C. Brinsmade of Troy, in the others by Dr. Wolcott of Utica, and by myself, occasionally by another surgeon. The ether was generally either administered by Dr. McLean of the 2d N. Y. V., who had always previously used chloroform, but who quickly perceived the advantage of ether, when properly administered; or by myself. Dr. Brinsmade administered it occasionally; Dr. Kissam, of Brooklyn, also.

It is evident, from the effect of the ether in the above cases, and in others where the time was not accurately noted, and is therefore not given, that it is even more efficient as an anæsthetic in military than in civil surgery; the very rapid absorption being probably due to the depressed and feeble condition of the patients. The last case noted, however, is not of this kind. The officer had been wounded at Bull Run, and is now in full health; the ether was administered to him a few days ago at West Point. In all the cases, the inhaler made use of, and which I find more efficient than even the large cupped sponge, was formed by two coarse stiff towels, folded lengthwise, laid together, and then rolled into a cone, with a handkerchief thrust into the bottom, to render it more shallow and increase the surface for the ether. This fits the face accurately, and effectually excludes all unnecessary air.—*Amer. Med. Times.*

UTILITY OF COFFEE IN SOLDIER'S DIET.—M. Larrey, having been called upon by the Council of Health of the Department of the Seine for his opinion as to the desirableness of extensive employment of coffee in the soldier's diet, speaks in his reply in the warmest terms concerning its use. He states that upon his father's recommendation it was employed freely in Algeria, with the best effects upon the soldier's health, as a substitute for brandy. It has also seemed to act in some measure as a prophylactic to intermittent fever.—*London Med. Times and Gazette.*

THE Hygeia Hospital at Fortress Monroe is to be broken up, and the patients transferred to a more healthy and convenient place. An order will also be made to discontinue sending sick and wounded to Yorktown. There are now at that post nearly fifteen hundred, and the accomodations are very inferior and the water unhealthy.

E. SCHUELLER,

DRUGGIST AND APOTHECARY,

South-East Corner of High and Rich Streets,

MECHANIC'S HALL, Columbus, O.

THE undersigned would call the attention of the medical profession to his well selected stock of *Drugs and Chemical preparations*, of which he keeps the best and purest articles to be found in the market.

☞ *Physicians* are respectfully invited to examine before buying elsewhere, as he will always endeavor to give entire satisfaction, both in quality and in price. Physicians may also rely upon their prescriptions being put up most carefully, and without delay, at any time, either day or night. jan. '62.

SURGICAL INSTRUMENTS,

BY K. KLOTT.

BETWEEN RICH AND FRIEND STS., WEST SIDE,
COLUMBUS, OHIO.

Mr. Klott, who has been for a long time in the employment of Geo. Tieman, of New York, has opened a new establishment for the manufacture and sale of all kinds of Surgical and Dental Instruments of the finest quality, which he proposes to sell on the most reasonable terms.

He keeps constantly on hand a great variety of instruments, which he invites physicians, surgeons and dentists to call and examine before purchasing elsewhere. He hopes, and is determined to furnish the western profession with as good a quality of instruments as can be found in our largest cities.

☞ Orders from abroad promptly attended to.

From an acquaintance with Mr. Klott, and an examination of his instruments, I feel fully justified, and indeed I take pleasure, in recommending them in the highest terms. I have had ample opportunities to test the instruments of many of the most celebrated manufacturers of the world, and I have no hesitation in saying that for beauty of finish and fineness of steel and temper, they are not excelled by any I have ever seen. They are equal to Tieman's or Schively's best. J. DAWSON.

jan. '62.

FT. CH. COLUMBUS . O.

OHIO
MEDICAL AND SURGICAL JOURNAL.

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Original Communications.

MY DEAR DOCTOR,—I propose to give you a few thoughts on subjects that I suppose may not be too much dwelt upon just now; and I propose saying what I have to say in my own way. I am an old man, or at least some think I am, though I don't consider myself old enough yet. But how natural is it for an old man to be a little egotistical, and for us all, when an idea strikes us, to think now that's an idea of such importance that the world ought to be made acquainted with it. Still I can't help but imagine that I have a little right to bother the public, through your Journal, with some of my notions. The fact is, I have read the "Books," ancient and modern; I have noticed the "young Physics" and the "old Fogies;" have watched the "Progressives" and the "Hunkers;" have heard of the "Doxies" and the "Pathies." Now, ought I not know something? Well, I do—I imagine I do. Some, I know, might say that all that the wisest knows amounts to but little. What a saying! I don't believe a word of it. Some things we can know just as well as there is any use for; others, of course, we can't. I know that it may be said that our truths, facts, principles, admit of new editions all the time, and therefore there is in them nothing positive. Now, I have no wish here to get into a quarrel with the philosophers. I would recommend them, however, to conservatism a little. So far as our profession is concerned, we have our facts and our principles, and upon them we build, and, as history shows, to some profit.

Perhaps, now, you may think my exordium long enough; so, for fear of imposing on good nature, I will proceed. I would, had I the time, say many things; but I must content myself with a few remarks in relation to Army diseases, or rather diseases that occur in an army such as we have just now; for I imagine that we are in need of all the counsel that can be obtained, that we may economize as much as possible the vitality of our forces. It is no part of my object in this sketch to go into details.

Prevention of Diseases in Army Life.

Now I can do nothing more than allude, in very general terms, to this subject. I know you are impressed with its importance, but I am not sure our authorities are, for in a military scuffle such as is going on at the present time, the mind is apt to be concentrated more on results than on the means of obtaining them—more on victories, than on efforts of military hygiene.

Somebody has uttered the old maxim, "*an ounce of prevention is worth a pound of cure;*" and the impression is canonized among medical men, that a great many diseases may be prevented that cannot be cured. Our purpose is to dwell on some of these, that always, in every army, give rise to serious trouble.

We hear a great deal of Jail fever; Camp fever; Ship fever. These are mere aliases of *Typhus fever*, a disease as old as human neglect and filth, and about as prevalent, for where one is, there the other is also. Typhus especially depends for its existence on OCHLESIS, or CROWD-POISON. You might ask me to explain what this ochlesis is. Well, I don't pretend to be able to approach even the answer. You know this, that human excretions affect the body injuriously—are among its deadliest poisons. Take an example or two. Where from any cause the urine is not eliminated, its presence in the blood gives rise to serious diseases and early death. So with regard to the bile, and the perspiratory fluid. Now there is a lesson here, and it ought to be turned to practical account.

The excretory matters eliminated from the body every twenty-four hours is very much more in quantity than might be expected. Their presence in small quantity, of course, are not perceptibly innocuous. Allowed, however, to accumulate for a length of time, as is often the case in army life, the clothing becomes charged with the saline and sebacious matters, and the first effect of such a habit is often seen in a crop of parasites (*pediculus humanus corporis*), a sanitary effort, without much doubt, on the part of nature. Next in order is the occurrence of a specific infectious poison which, by common consent, is denominated *ochlesis*. It occurs where people are crowded too much, and inattentive to the laws of hygiene, and it gives rise to a number of serious diseases, among which typhus fever and dysentery are prominent. Let us look a little here by the light of history. The cities of Asia and Africa for a long time were, because of their filthy condition, the head-quarters of the typhus poison. Before the time of Mohammed Ali the oriental capital, Cairo, often suffered the most destructive visitations of typhus. From here it spread, often to the cities of Europe. The disease, it may be taken for granted, will occur wherever we have a crowd of people lodging together for any length of time, unless there is the greatest care. It occurs in hospitals, camps, prisons, any place, every place, where men are congregated carelessly together.

In view of such facts, what a great responsibility rests on the medical department of the army! Here is a disease that, when prevalent, destroys an army more certainly than the bullets of the enemy. *Can it be prevented?* The testimony of those having most experience is that it can; and the means of doing it are simple. They consist in a few sanitary measures. Soldiers, in going into camp-life, should be compelled to keep themselves clean and neat. Frequent ablutions, and changes of clothing as often as necessary, should be enforced with as much faithfulness as discipline in the ranks.

A matter of importance, too, is the location of camps. In summer and fall these should be so selected as to avoid malaria; in winter, so as to avoid dampness. Around camps the filth and refuse materials should not be allowed to accumulate for a single day. The interior of tents and hospitals should also be carefully guarded against every thing that ferments or decomposes. But what, after all, is of most importance in camp police and hospital arrangements, is plenty of fresh air and the direct rays of the sun. No hospital should be tolerated as any thing but a nuisance, where the atmosphere has not free access, and where the direct rays of the sun cannot have influence. It is the natural current of the atmosphere that dilutes the poison and carries it off; it is the direct rays of the sun that possess in the most eminent degree the prophylactic power, and upon the patient the life-inspiring influence. We say, then, let attention be directed to the avoidance of careless, filthy habits on the part of the soldier, as the means of preventing typhus, diarrhœa, dysentery, etc.; and where sickness makes its appearance, give the soldiers a full supply of light, and fresh air. Hospitals by the acre are being erected in the vicinity of our large armies; and unless good regulations obtain, they will become sources of disease that will not only destroy those within them, but extend to the inhabitants of the country in which they are situated. Up to March last we had in our army 32,400 deaths, 60,000 permanent invalids, and 8,400 lost and missing. What our losses have been since March 1st, 1862, we have no means of knowing yet, but we know enough to expect a fearful report. The battles at Shiloh and before Richmond have yet to be written out by the medical historian. When this is done, our eyes will be opened on the large preponderance of soldiers who have perished by disease, from inattention to the plainest rules of army hygiene.

Excuse me, my dear sir, for dwelling on this subject as long as I have. You cannot in your Journal give any thing that pertains to typhus too much importance, for it is the generalissimo of all the destroyers that affect an army; for one that falls by bullets, five or more fall by typhus.

In connection with this, allow me to advert to another matter bearing primarily upon the health of the soldier. When not on the march or in battle, it is generally supposed that soldiers should be allowed to occupy their time in any way they please. As a consequence, a large proportion lie around, merely vegetating from day to day, until something turns up. This I take to be anti-physiological. There is nothing in nature that stands still. Nor is being still the normal state of any thing, much less of a soldier. He requires motion, motion, motion, if you would have him enjoy health. It is true that drill comes in for a share of the time; but this is not so commonly the case during the winter months, and at other times when battles are not impending. In view of such facts, officers would do well to have something constantly on hand to occupy a portion of the time of the soldiers—something every day to exercise both mind and body. Such a course will work off much effete matter that might otherwise occasion disease; it will harden up the muscles for fatiguing marches, and impart healthy mental and moral impulses. Idleness is the parent of vice, physical as well as moral. It has been suggested that labor on fortifications and the like impairs the faculties of the soldier, and renders him less fit for duty. This might apply to labor in a hot climate during summer months, or to labor in bad weather. In a climate, however, to which the soldier is accustomed, and in any thing like ordinary weather, and when the emergencies will allow of it, the soldiers will not only not be impaired in usefulness by such a course, but will be benefited—will be better soldiers. If, then, you would have the soldiers healthy and efficient, give them rations in exercise as well as in bread and meat.

I will now say a few words in regard to the treatment of typhus, and only a few words. The disease is one, as we have seen, depending for its existence upon the introduction into the system of a specific contagious poison. How are we to get clear of the poison? Do we know of any means by which it can be neutralized? Or can it be eliminated by drugs? I fear both of these questions have to be answered in the negative. What, then, is our course? We must simply accept of the presence of the enemy, and treat him not as a prisoner within our power, but as an unwelcome visitor that takes his own time for leaving. While he is with us, we must keep things as straight as possible, guard every point against him, and endeavor to make him feel that he is "standing on slippery rocks, while fiery billows roll beneath his feet." But you might say that this dwarfs our mission into one of a mere contemplative process. Well, you know it is the easiest of all things to get up objections. Good generals cannot always annihilate or destroy. They have often to be satisfied to tolerate the presence of the enemy, contenting themselves with hemming him in, and annoying him until he gets discouraged and leaves of his own accord. It would be a very nice thing to shell him out, if it could be done; but not so nice if the shells would set fire to the city in which he happens to be quartered.

To drop figures, there is a good deal of talk about specifics for typhus. Permit me to say that they amount to but little. Quinine will bluff off an intermittent pretty squarely, and it has been thought that it ought to do the same with typhus. It don't; and we must accept the fact, however unacceptable. Emetics at the onset have been regarded as having the power to abridge, if not annihilate. This notion has had a good many adherents—more in former times than at present. Indeed, I know of but few, whose judgments are worth any thing, that now believe much in the power of drugs, or plans of any kind, in jugulating typhus fever. The great fact, however humiliating, stands out, that the disease will run its course, irrespective of all art. The treatment, then, with drugs conceded as inefficient, as really useless, perhaps injurious, what can we do for the patient? Modern thought has concentrated on dietetics. *Feed the patient, feed the patient,* FEED him. Stimulate, too. If the powers flag at the commencement of the disease, stimulate even then; and always towards the close. Allow, too, during the progress, plenty of fresh air and sunlight. Patients do better in sheds, temporary sheds, than in hospitals, because the air and light are better.

Allied very closely to typhus and, perhaps, depending upon the same cause, are Camp Dysentery and Diarrhœa. For these diseases the treatment is more medicinal. After fully confirmed, dysentery is rather rebellious, but in the earlier stages it is amenable to medicine. For both it and diarrhœa the treatment has to be extemporized. No one plan suits all cases. Opiates, camphor, calomel, astringents, stimulants, are among the leading articles. The diarrhœa that so generally prevailed after the battle of Shiloh, was very much, in many cases, like what characterized epidemic cholera, and required similar treatment. Our young men coming up to an epidemic, like that of diarrhœa, would be likely to experience no little disappointment. Imbued with positive notions on the potency of drugs, they would most likely, after trying their hands for a while, find themselves metamorphosed into young skeptics, prepared to call almost every thing into question. This state of mind, however, has its advantages; it leads to reflection, close careful observation, and intellectual expansion. Efforts are at once made to understand why the disease is often so protracted—why it is that cases are under treatment two, three, four months, or even longer, and then succumb; and it results in finding out that these cases are dependent upon grave structural lesions—a lesson that will pave the way to some success. I have no disposition to go into details. But allow me to say that *opium* is our best friend in these troublesome affections; it generally controls discharges, and what, after all, is of most importance it procures rest. There is nothing, however, more common than for the young physician to expect too much from opium. The opinion of Pringle, than whom we have no higher authority for the treatment of Army diseases, as they appeared a century ago, is against the use of opiates until "the first passages are thoroughly cleansed." Sydenham was less discriminative; he inclined to use them in all stages. Should the diarrhœa depend upon intestinal lesions, ulceration of Peyer's glands for example, the utility of opiates will be simply confined to the allaying of pain, and procuring of sleep.

The fluxes of the English and French soldiers in the Crimea, were often the precursors of fever of a very malignant type. These, of course, required a treatment in which stimulants and sustaining diet entered largely. Much of the disease on the Peninsula and at Shiloh, began with a diarrhœa that ultimated in fever. I suggest, on leaving this subject, that aromatics, stimulants and opiates, may be advantageously invoked in simple diarrhœa, while for the discharges following structural lesions, the dependance can only be placed upon beef tea, wine, a good supply of air and light, with opiates as often as may be required for procuring freedom from pain.

Armies are often, from carelessness or necessity, quartered in malarious districts. As a consequence Intermittents of every grade and form. A common intermittent looks to be insignificant; and really it is when we consider how easily we handle it in private practice. But it must be recollected, that this disease, however mild, wastes vitality very rapidly, and when an army happens to be pretty generally seized by it nothing is more paralyzing. We should also bear in mind that in some localities, and during some seasons, a very malignant form of the malady prevails. It then passes under the names of "malignant intermittent," "congestive fever," or "sinking chills." This form is uncommonly fatal.

Nothing in therapeutics is better settled than the treatment of intermittents, and nothing throws more lustre around our science than the triumphs made over this class of disease. Still, to treat successfully the various shades assumed, and do the most that can be done for the malignant cases, is no child's play.

The treatment divides itself into measures of prevention as well as those of cure. Quinine, without any doubt, will cure the disease. This needs no elaboration. It will also prevent it. It may, indeed, be used with great confidence for the latter purpose. As a consequence it should be always administered to soldiers encamped in malarious districts. They should have rations of quinia as certainly as rations of food. The treatment of congestive intermittents resolves itself mostly into an effort to divert the blood from the deep seated organs and vessels towards the surface, and thus get up reaction. For this purpose I have but little confidence in any thing that is known. The warm bath, frictions, rubefacients, blood letting, are all spoken of. With some the cold *douche* is a favorite. Reaction obtained, quinia should be administered in doses sufficiently large to prevent a recurrence of the paroxysm.

I witnessed in this latitude, several years since, an epidemic of malarial fever, in which the impress of the poison upon the bowels was so intense that enteric lesions were at once developed, with extreme icterus of the surface and conjunctiva. Quinia here, although the disease was malarial, made no impression. The disease had to be treated as typhoid fever.

In this connection I cannot avoid making a special point on

THE NECESSITY OF BREATHING A PURE AND CONTINUALLY RENEWED AIR.

Soldiers, as all the modern wars of Europe, and that now going on in this country go to show, are very careless upon many things that relate especially to their own welfare. In winter the great object is *warm* quarters, at the expense of other things equally, if not of more importance. Among these is pure air frequently, continually renewed.

A few facts I borrow from *Bauden,* taken from the "*Annales d' Hygienne publique et de Medicine legale:*"

"In 1834 a spacious and handsome house was constructed in the Zoological Gardens, London, intended for monkeys, 30 in number, who for several years had lived in pretty good health in the open air. The principal object in the construction of the building was to provide them with an artificial warmth in winter similar to that of their native climate. A few weeks after their establishment in the warm buildings, two-thirds of them died by the disease which kills the majority of our soldiers, phthisis pulmonalis; the remainder were at the point of death. It had been omitted to renew the air by ventilation. Fresh air was liberally supplied, and the monkeys which had not yet succumbed soon recovered."

"The Hospital Beaujou in Paris is composed of four separate buildings of exactly the same size, and each containing the same number of patients, suffering from analogous complaints. During several years hospital gangrene, erysipelas and pleurisy were rampant in three of the buildings; one building only was exempt; it was the one ventilated by the Leon Duvoir system."

"The Council of Health of the Army was consulted fifteen years ago on account of a murderous attack of typhoid fever which occurred yearly at the St. Cloud barracks as soon as King Louis Philippe took up his residence at that place. None of the inhabitants of the town or officers were affected, and as soon as the King left the epidemic ceased. It was accounted for in this manner: While the King was away the barracks contained 400 men only; but when he arrived the number was increased, in the same badly-ventilated barracks, to 1200.

"We hasten to add that the War Department, profiting by the severe lessons of the past, has given strict attention to the ventilation of hospitals. In the splendid Military hospital which has just been erected in Vincennes, the apparatus for heating and ventilation are so arranged that each patient is assured a minimum of sixty cubic yards of air per hour, and a uniform temperature day and night of 60° Fah."

Such facts, and such improvements in view of them, ought to be peculiarly suggestive to our authorities, so much engaged just now in caring for the sick. Tents, cantonments, barracks, and hospitals should be constructed so as to insure to the occupants thereof, above all things, a constantly-renewed supply of pure air.

DIET OF SOLDIERS.

A word or two on the diet proper of soldiers, and I will not trouble you further at this time. I am not sure, from any thing I have seen, that this subject is properly appreciated. Fed properly the soldier is armed, at once, for almost any emergency; but with a defective diet he soon dwindles and becomes the prey of disease. It is a fact, perhaps, not generally appreciated, that the nourishing principle (organic) of food is pretty much the same whether derived from the vegetable or animal kingdom, and is derived from albumen, fibrin or caseine, organic elements found in both kingdoms. This organic nourishing principle is, however, itself a compound made up of some fifteen chemical elements. The organism, to do well, should have a supply, of course, of these elements regularly maintained. This is axiomatic. But there is another matter just here. Eggs and milk, either of which contain all of the elements, and in the normal proportions, fail to sustain, for any considerable length of time the body of an adult in a healthy condition. I know of no way of explaining this fact; but still it is a fact fully sustained by the most carefully conducted experiments. What then? Why this: *variety of diet and frequent changes.* An individual will live a while on a single article, but the richest substance will fail to support him in a healthy condition for any length of time. It is this fact that explains the indispensable necessity of variety and frequent changes in the diet of the soldier. He requires not only salted meat, but also fresh; not only beans and crackers but potatoes, cabbage, and edible vegetables of every kind, including fruits. Another matter frequently disregarded is volume in dietetics. Besides the principles of nourishment we must have something associated with them to produce a mechanical distention of the bowels; besides the grain, if you please, you must have *fodder.* The delicate lacteals do not work well without.

Now, my dear sir, if what I have said will be the means of saving a poor boy from the hospital, I will be rewarded. I have written you in a hurry so pardon errors.

Your friend,

HARMODEUS.

August 19, 1862.

Army Correspondence.

Gen. Cox's Division, Western Virginia,
August 1st, 1862.

Sir :—I respectfully submit to you the inclosed monthly report of the sick and wounded of the 28th Regiment of the Ohio Volunteer Infantry.

In my last sanitary report, I have given the medical topography of this station, therefore it requires no further consideration in this report. The general health, not only of our regiment, but of the entire army of Flat Top Mountain, is good. You will notice, by comparing the inclosed report with that of my last, that there has been a slight increase of sickness. This increase has been but within the last two weeks, and will in all probability keep slowly increasing, for reasons presently to be mentioned.

There are, at this time, several causes in operation, that have a tendency to influence unfavorably the health of our troops. These are :

1st. The use of a non-vegetable diet.

2d. A cold, humid condition of the atmosphere, caused by the recent rains.

3d. The barracking of the soldiers in bark huts, which do not protect them sufficiently from the rain and the cold mountain winds.

4th. The tediousness of our military inactivity, causing nostalgia, and physical and mental depression.

The want of a vegetable diet is here much felt—not on the principle that a "full stomach gives courage," but to counteract a scorbutic disposition that is now manifesting itself in the army. We judge this to be so, by the sponginess of the gums, looseness and falling out of the teeth, lassitude and indisposition to muscular exertion, with many of our men. We not only find signs of a scorbutic tendency, with some that are not reported sick, but with the most that are on the sick list, and are under medical treatment

—particularly our cases of dysentery, ulceration and cutaneous diseases, which are often tedious and difficult to manage. As yet we have not seen the characteristic petechial spots of the disease. It is true that exposure, and the immediate effects of camp diet, in the treatment of our sick, are difficulties we have to contend with, but the constitutional taint in question, as a formidable remote cause of disease, we hesitate not to admit. We would venture to say, as scrofula is the basis of a certain class of diseases, so is scurvy the basis of the characteristic camp diseases. If we are correct in this, the antiscorbutic treatment by diet, in this kind of diseases, would almost prove to be a specific in itself.

In the treatment of chronic dysentery, under these adverse circumstances, where the patient is laboring under a scorbutic diathesis, we have often to contend with the greatest difficulties. However, in cases where the inflammatory action is not great—where the tongue is clean—we sometimes prescribe, after an aperient, the following, with a happy effect:

℞. Sulp. acid. arom., ℥j.
Sulp. quin., gr. xx.
Sulp. morp., gr. v.
Creasot., m. v. M.

S. Twenty-five drops in sweetened mucilageous water after each diarrhœal passage.

In some old cases, we have found the following prescription answer a good purpose:

℞. Pulv. ipecac., gr. iv.
Argen. nit. cry., gr. j.
Sulp. morph., gr. ¼. M.

S. Three and four times a day, at proper intervals.

Cases of a more inflammatory nature we sometimes prescribe the following, with favorable results:

℞ Hyd. chlor. mit gr ij.
Pulv. ipecac gr iv.
Pulv. acac.
M.

S. A powder every 4 hours, and a tablespoonfull of the following mixture immediately after each diarrhoeal evacuation:

℞ Pyroxil. spt. ʒij.
Mucil. acac. ℥jss.
Simp. syr. ℥ss. M.

In regard to diet, in the treatment of Camp Dysentery, I have nothing special to report, except, on the theory of my paper, I would suggest the free but prudent use of thick potato panada.

We have a case of ulceration of the palmar surface of the big toe, which resisted the usual treatment for months. After treating the case, myself for weeks, with no better success than my predecessors, I at last gave the case a happy turn, by rest, giving the patient every night two Comp. cathar. pills, and by touching the ulcer, two or three times daily, with the following black mixture:

℞ Mur. Tr. of Iron, saturate with Tannin.

Toothaches here are of frequent occurrence—a class of cases we not often put on the sick-list. In many cases it evidently has some connection with the scorbutic constitution of the patient. Where the decayed tooth is not extracted, I hardly ever use the creasote to relieve the pain, on account of its vesicating effects on the gums, tongue and lips, but introduce into the cavity of the tooth a saturated Tincture of Iodine, which usually relieves the pain promptly, not only for the time, but often permanently.

As I have dwelt principally upon the subject of the constitutional predisposition of disease of our men, caused principally by a non-vegetable diet, I have but a few words to add in regard to the correction of the evil. Where scurvy is about to take hold of an army, it is known to be absolutely necessary, in order to prevent its outbreak, to enforce an antiscorbutic vegetable diet. We have fresh meat, crackers, rice, beans, and, sometimes, a dried vegetable compound, but it needs no argument here to show that it is not a regimen calculated lo prevent the development of the scorbutic diathesis, or for the cure of the disease.

Professor Wood, in his Practice of Medicine, on the prophylactic measures of scurvy, says: "Of the vegetables, the *potato* and cabbage in the form of *sour-krout,* unite, perhaps more than any others, efficiency with capability of prevention. A supply of these, or of some equivalent substance, should always be added to the salt meat, and biscuit or bread, or other farinaceous product."

We have here, on Flat Top Mountain, more than 3,000 Germans, and 1,000 Irish—two classes of soldiers that are extremely fond of eating two of our most efficient vegetable antiscorbutics—the potatoe and the sour-krout. On the hygyenic effects of the use of the potato, I deem it not necessary to dwell. Of sour-krout, I would briefly say, as it has passed through a process of fermentation in making it, it is a palatable and healthy diet to most persons, particularly to the soldier and the laborer. Sour-krout is more digestible than any culinary preparation of green cabbage. We find the same to hold good in regard to the fermented and unfermented wines, and some other articles. I have men eat sour-krout three times a day for weeks, and enjoy excellent health.

As our army here appears to be suffering for want of an antiscorbutic diet, we would respectfully solicit your attention to the subject. The government by furnishing to the soldier the two articles of diet in question, would not only promote the health of the army, but gratify not a little our self-sacrificing soldiers. We would suggest to have potatoes to be the antiscorbutic food of the troops in the summer, and sour-krout in the winter—as potatoes in camp cannot be well kept in winter, nor sour-krout in summer.

There is another subject, I wish to direct your attention to, and that is the sale of intoxicating drinks by the sutlers. It is true the sale is under the restrictions of officers, but such are the subterfuges in getting liquor, that as long as the sutler has it for sale, in spite of these or any other restrictions, the soldier will often get it, and often to the detriment of his health. There is considerable liquor drank here, and I have seen here a few of the worst kind of cases of mania á potu. It is hoped that measures will be taken to suppress entirely the sale, and giving away of liquors by our sutlers, and thereby add greatly to the prevention of diseases.

I remain, sir, most respectfully,
Your obedient servant,
G. P. HACHENBERG,
Asst. Surg. of the 28th Reg't., O. V. I.

Toxicology.

Notes on some of the Chemical Reactions of Oxalic Acid. By T. G. Wormley, M.D.

The solutions in the following investigations were made by dissolving pure crystallized oxalic acid in water. 10 grains of the acid, when effloresced in a water-bath, lost 2.84 grs. Therefore, it must have had the constitution $HO,\ C_2O_3,\ 2\ Aq$.

When $\frac{1}{100}$th grain of oxalic acid in one grain of water is evaporated to dryness, it leaves a crystalline mass, consisting of long prisms. $\frac{1}{1000}$th, gives a very good deposit of rather long prisms. $\frac{1}{10000}$th, a very distinct deposit of small prisms and crosslets.

In the following experiments, the fractions refer to the fractional part of a grain of crystallized oxalic acid in one grain of water. A small drop of a very strong or saturated solution of the reagent was applied to the drop of the oxalic acid solution contained on a glass slide, or in a watch glass.

1. *Nitrate of Silver.*

1. $\frac{1}{100}$th grain of oxalic acid in one grain of water gives, with the reagent, a copious white amorphous precipitate, which is insoluble in acetic acid, and requires three drops of nitric acid of sp. gr. 1.32 to dissolve it; readily soluble in ammonia. The oxalate of silver is insoluble in very large excess of oxalic acid at ordinary temperatures; when the mixture is boiled, it dissolves very slightly. The above precipitate, when dried and heated upon the point of a knife-blade, is dissipated with several puffs.
2. $\frac{1}{1000}$th, a rather copious white precipitate, insoluble in acetic or tartaric acid; readily soluble in a drop of nitric acid. When dried and heated, it is dissipated rapidly, but not in puffs.
3. $\frac{1}{10000}$th, gives a pretty good deposit.

4. $\frac{1}{20000}$th, an immediate opalescence, which, in a few moments, becomes a good deposit.
5. $\frac{1}{50000}$th, much as in 4.
6. $\frac{1}{100000}$th, an immediate opalescence, which, after a little time, settles to a very satisfactory flocculent deposit.
7. $\frac{1}{1000000}$th, gives a quite distinct opalescence.
8. $\frac{1}{2500000}$th, after a little time, a perceptible cloudiness.

None of the above precipitates changed in color, even after they had dried spontaneously.

2. *Sulphate of Lime.*

1. $\frac{1}{100}$th, an immediate, quite good, white precipitate of oxalate of lime, which, when examined with an amplification of 100 diameters, consists of small granules. The precipitate is insoluble in acetic and oxalic acids, but readily soluble in nitric acid.

Chloride of calcium solution gives a more copious precipitate than the above reagent, and the deposit is in the form of little squares, somewhat larger than the granules given by sulphate of lime.

2. $\frac{1}{1000}$th, an immediate cloudiness, which soon becomes a quite good granular deposit.

Chloride of calcium gives about the same, but the deposit is in the form of small squares, which measure from $\frac{1}{3000}$ to $\frac{1}{7000}$ inch, whereas, the precipitate from sulphate of lime is in the form of small oval granules, uniformly measuring about $\frac{1}{10000}$ inch in their longest diameter.

3. $\frac{1}{5000}$th, an almost immediate cloudiness, and soon a good granular deposit.
4. $\frac{1}{10000}$th, very soon a very perceptible cloudiness, and soon a quite satisfactory precipitate.
5. $\frac{1}{20000}$th, after a little time, a quite distinct cloudiness.
6. $\frac{1}{50000}$th, in a few minutes, a just perceptible cloudiness.

As nitrate of silver and sulphate of lime are the principal tests used in the toxicological investigations of oxalic acid, it is important to remember that many other substances will give a white precipitate with one or both of these reagents; among the principal of which are: soluble *carbonates, tartrates, phosphates, borates* and *citrates;* also, *chlorides* and *sulphocyanides.* The salts of silver and lime, resulting from these compounds, differ in some respects from the oxalates of these two bases. The following are some of the differences observed: 1. The carbonates of silver and lime are *soluble* with effervescence in acetic acid. 2. Tartrates. *Nitrate of silver* gives, with a saturated solution of free tartaric acid or an alkaline tartrate, a slight white precipitate, which is crystalline, or soon becomes so; the precipitate is very readily soluble in tartaric acid or an alkaline tartrate; therefore, if the free acid or alkaline tartrate is in excess, the reagent gives no precipitate. The precipitate produced by this reagent from oxalic acid is amorphous, and wholly insoluble in excess of oxalic acid; the precipitate from $\frac{1}{50000}$ grain of oxalic acid in one grain of water did not dissolve in ten grains of a saturated solution of tartaric acid, or an alkaline tartrate. *Sulphate of lime* gives no precipitate with a saturated solution of free tartaric acid, or alkaline tartrate. 3. Phosphates. *Nitrate of silver* gives, with a strong solution of an alkaline phosphate, a copious yellow amorphous precipitate; in a dilute solution, the precipitate is of a dirty white color, and might be mistaken for that produced by oxalic acid, but the precipitate from phosphoric acid is readily soluble in tartaric acid. *Sulphate of lime* gives, with phosphates, a white precipitate, which is readily soluble in acetic acid. 4. Borates. *Nitrate of silver* gives a precipitate which is insoluble in excess of the borate, but readily soluble in acetic or tartaric acid. *Sulphate of lime* gave a slight precipitate with a saturated solution of borax; chloride of calcium gave a dense white precipitate, readily soluble in acetic acid. 5. Citrates. *Nitrate of silver*, with free citric acid, gives a granular precipitate, readily soluble in citric or acetic acid; an alkaline citrate behaves much the same. *Sulphate of lime* gives no precipitate with free citric acid or an alkaline citrate; *chloride of calcium*, with citrate of potash, gives a precipitate soluble in excess of either solution. 6. Chlorine. The chloride of silver is insoluble in nitric acid. *Sulphate of lime* gives no precipitate with chlorine or a chloride. 7. *Sulphocyanide of potassium*, with nitrate of silver, gives a white precipitate insoluble in nitric acid; with sulphate of lime, it gives no precipitate.

3. *Chloride of Barium.*

1. $\frac{1}{100}$th, gives a quite good amorphous precipitate, which soon changes to granules, and after a little time, in most cases,

to very fine bold dumb-bells, with some needles. The precipitate is insoluble in acetic acid. Nitrate of baryta gave beautiful octahedra, but no dumb-bells.

2. $\frac{1}{1000}$th, in a few moments a cloudiness begins, which, in a little time, becomes a good deposit of needles and granules. If the mixture be rubbed, the precipitate is increased.
3. $\frac{1}{2500}$th, if the solution is rubbed with a glass rod, it gives, in a little time, granular rings and small crystalline needles.
4. $\frac{1}{5000}$th, after some time, small granules and needles are perceptible; with the microscope, they are quite satisfactory.

4. *Nitrate of Strontia.*

1. $\frac{1}{100}$th, an immediate precipitate, which improves, and soon becomes a good deposit of granules, plates, and fine octahedra; insoluble in acetic acid.
2. $\frac{1}{1000}$th, very soon, granules, squares, and some octahedra.
3. $\frac{1}{5000}$th, in a little time a distinct cloudiness, which changes to a rather good granular deposit.
4. $\frac{1}{10000}$th, in a few minutes a quite satisfactory deposit. Sulphate of magnesia gave no precipitate with a saturated solution of oxalic acid.

5. *Acetate of Lead.*

1. $\frac{1}{100}$th, a copious white crystalline precipitate, insoluble in acetic acid; the precipitate is a mass of crystalline needles.
2. $\frac{1}{1000}$th, a copious bluish white precipitate, which immediately begins to crystallize; insoluble in acetic acid.
3. $\frac{1}{5000}$th, a good precipitate, which immediately begins to crystallize in small stars.
4. $\frac{1}{10000}$th, immediate cloudiness, and soon small stars.
5. $\frac{1}{20000}$th, very soon, cloudiness, which changes to a quite satisfactory precipitate of granules, but no distinct crystals.
6. $\frac{1}{40000}$th, after some time, a slight opalescence.

The acetate of lead is usually employed to separate oxalic acid when in solution with organic matter. 10 grains of a $\frac{1}{1000}$th solution of oxalic acid was precipitated by acetate of lead, and the precipitate well washed with water, and then diffused in 10 grains of water, and a stream of sulphuretted hydrogen passed into the mixture; after the sulphuret of lead had subsided, the solution was filtered; the filtrate treated with various reagents gave the same reactions as the $\frac{1}{1000}$th solution. The above shows that $\frac{1}{100}$th grain of oxalic acid may be changed to the oxalate of lead, and this decomposed by sulphuretted hydrogen, with the elimination of free oxalic acid, without any perceptible loss of the acid.

6. *Sulphate of Copper.*

1. $\frac{1}{100}$th, gives an abundant light bluish flocculent precipitate, insoluble in excess and in acetic acid; also insoluble in large excess of nitric acid.
2. $\frac{1}{500}$th, after a little time, a granular precipitate, which mostly floats upon the surface of the drop; the precipitate does not seem to be affected by a few drops of nitric acid.
3. $\frac{1}{1000}$th, after some time, a slight precipitate, which dissolves in a drop of nitric acid.

7. *Chloride of Gold.*

1. $\frac{1}{100}$th, gives a slight precipitate of metallic gold.

8. *Extraction of Oxalic Acid.*

1. By *Ether.* If 1 grain of oxalic acid is dissolved in 100 grains of water, and this mixture agitated with an equal volume of ether, the ether decanted and evaporated to dryness, will leave but a slight trace of the oxalic acid.
2. *Chloroform,* under the same circumstances, will extract about .05 of a grain of the oxalic acid.

COLUMBUS, OHIO.

Medico-Legal Researches upon the existence of Nicotine in the Viscera of a Man making use of Tobacco. By M. MORIN (Journal de Chemie Medicale, May, 1862, p. 264. Translated by T. G. WORMLEY, M.D.)

Does the immoderate use of tobacco leave traces of its presence by depositing nicotine in the system? The author has examined, in reference to this question, the lungs and liver of a man aged 70, who, for a long time, was in the habit of using tobacco in the form of snuff, and which he continued until his death.

The analysis of these two parenchymatous organs was made in the following manner: the lungs, cut into small pieces, were placed in contact with distilled water acidulated with a few drops of sulphuric acid; and the liver, triturated in a mortar, was placed with water acidulated with oxalic acid. After several days of contact, the liquid was filtered through paper free from carbonate of lime, then concentrated to one-third of its volume by heat. As the concentration took place, little flocks were produced, which rapidly formed a precipitate. The concentrated liquid was filtered, then treated with pure alcohol, which produced new flocks which were separated by a filter. The alcohol was then expelled by evaporation, and the residue treated with slight excess of pure potash. The cooled mixture was agitated with ether, which, after some hours of contact, was decanted, and evaporated under a receiver of an air-pump. By this means there was obtained a residue, which possessed an irritant odor and a sharp taste characteristic of nicotine. This residue was soluble in distilled water, and communicated to it the property of yielding a white precipitate with corrosive sublimate, and behaved with the chlorides of platinum and palladium, as also with the salts of copper and lead, in the same manner as the alkaloid of tobacco; it was also precipitated by tannic acid and a solution of iodine in iodide of potassium.

The decision of the above question is very important both in a physiological and toxicological point of view, but we can not admit that the presence of nicotine was clearly and unequivocally established by the above analysis.

We know from repeated experiments that when complex organic mixtures, such as the above, are simply extracted once by ether and the residue dissolved in water, they yield solutions which will generally give precipitates with all of the above reagents in the same manner as nicotine, even when not a trace of the alkaloid is present. The mere production of a precipitate by ether on all of the above reagents is, therefore, not in itself positive evidence of the presence of the poison, as they yield somewhat similar deposits with most of the alkaloids and many other kinds of organic matter. It is only by the microscopic characters, or the subsequent behavior of these precipitates with confirming reagents, that the presence of this alkaloid can be fully established. Of the different tests for nicotine, the reaction of corrosive sublimate is much the most valuable, as it yields a perfectly characteristic crystalline deposit, with even a small drop of a liquid holding only the 2500th of its weight of the alkaloid. Although this reagent yields a white precipitate with many organic substances, yet with the exception of the precipitates from nicotine, and strong solutions of strychnine, the deposits are amorphous. The precipitates from these two alkaloids may be readily distinguished by the difference in their crystalline form when examined under the microscope. Although it had been known for a long time that this reagent gave a precipitate with nicotine, its crystalline nature was overlooked until we pointed it out in a previous number of this Journal. Another valuable test for this substance is an alcoholic solution of carbazotic acid, which gives a somewhat characteristic crystalline deposit, even with the 10,000th part of a grain in one grain of water. Bichloride of platinum also yields a crystalline precipitate; however only from strong solutions, its limit being about $\frac{1}{500}$th grain in one grain of water. These are about the only reagents that yield crystals with solutions of this alkaloid.

In regard to the taste and odor observed by our author, it is well known that ethereal extracts obtained in the above manner have a strong odor and taste, which might be readily confounded with the odor and taste of minute traces of nicotine. Moreover, admitting that the above reactions were really due to the presence of nicotine, and that the seven different tests mentioned were applied each to a single drop of the solution, we are strongly inclined to the opinion, from the fact that the chlorides of platinum and palladium yield precipitates only with strong solutions of the alkaloid, that they would indicate the presence of an amount of nicotine wholly incompatible with life.

From experiments upon animals it would appear that this substance is rapidly absorbed, and that it requires but a very minute portion to cause death. A single drop of the pure alkaloid placed upon the tongue of a dog or cat will produce death in a very few moments. In a number of instances in which we used this quantity and death took place in less than one minute, the poison was detected in the blood, although this fluid was carefully removed as rapidly as possible from the body after death. The quantity, however obtained under these circumstances was very minute, yet its presence, by following the proper method, may, by the aid of the microscope, be indicated with as much certainty as can be obtained from any amount of a pure aqueous solution of the alkaloid, the only difference being in the quantity of the precipitates produced. Moreover, an additional proof of the small amount necessary to produce death, is found in the fact that very nearly the whole of the original quantity may be obtained in the free state from the mouth, œsophagus and stomach of the animal.

W.

A New Method to Separate and Determine the Presence of Alkaloids. By L. VON USLAR and J. ERDMANN. (From Liebig's Annalen, 1861. Vol. 120.)

The elimination of a poisonous base, when contained in very small proportions, in large quantities of organic matter, is a very circumstantial and troublesome process if the known methods are followed. We have, however, succeeded in contriving a process by which very small quantities indeed of fixed as well as volatile alkaloids, as morphia, narcotin, strychnin, nicotin, coniin, even when mixed with very large proportions of other organic matter, may be eliminated very readily, and within a short space of time.

This process is founded on the fact that the free vegetable alkaloids are quite freely soluble in pure fusel-oil (amylic alcohol, boiling point =325° Fahr.), in such a way that great quantities of water even, especially when of an alkaline reaction, do not remove from it any of the alkaloid; while, on the other hand, the hydrochlorates of the bases are of difficult solubility in amylic alcohol, and are readily removed from their solution by mere shaking with hydrochlorated water.

The following are the manipulations according to this method. The matter to be examined, made if necessary, into a thin pulp with water, and is slightly acidulated with hydrochloric acid, is digested for one or two hours at a temperature of 140°—170° Fahr. It is then strained through a linen cloth moistened with water, the residue exhausted by means of hot water acidulated with hydrochloric acid, and to the combined liquids a slight excess of ammonia is added, after which they are concentrated first over open fire, and finally evaporated to dryness in the water-bath. The residue of the evaporated is extracted three or four times with hot amylic alcohol, and the solutions at once filtered through paper moistened with the alcohol. The filtrate is of a yellow color, and contains, besides the alkaloids, fatty and coloring matter. To free it from the latter, it is placed in a cylindrical vessel, and shaken strongly with nearly boiling, hydrochlorated water. By this operation the alkaloid is removed from its solution in fusel-oil, being taken up by the acid water, while the fat and coloring matter remains dissolved in the oil, which solution can be readily removed by means of a caoutchouc-pipette. A suction pipette is not admissible on account of the injurious action of the alcohol on the respiratory organs. By repeated shaking of the hot acid solution with renewed portions of fusel-oil, the remaining traces of fat and coloring matter may be finally removed; a clear colorless liquid will result, in which the base is combined with hydrochloric acid. It is advisable to concentrate it somewhat by evaporation. An excess of ammonia is then added, afterwards some hot amylic alcohol, and the whole well shaken.

After complete separation of the liquid into two strata, the upper one, the solution of the alkaloid in the alcohol, is drawn off, and the remainder again shaken with hot amylic alcohol; the alcoholic extracts being mixed, are evaporated or distilled in the water-bath, the alkaloid remaining behind at the end of this operation, often sufficiently pure to be ready for the analytical manipulations. In case it should still be colored yellowish or brown, it is again dissolved in dilute hydrochloric acid, the solution shaken with amylic alcohol, the latter (with the coloring matter) drawn off, the acid solution then supersaturated with ammonia, again shaken with the alcohol (hot), and evaporated as before. But rarely this purification will need to be repeated.

A number of experiments, of which we give a short sketch, will show the practicability of our method.

Two or three pounds of food made into pulp were mixed with one grain (0·064 gramme) of muriate of morphia, and then left to stand in a warm spot for three days, after which time distinct fermentation had begun. The extraction of the morphia by our method was completed in two days, the alkaloid being very distinctly proved by the reaction with perchloride of iron.

In another experiment, a still larger quantity of broken food, to which a large proportion of putrid meat had been added, was mixed with only 0·054 gramme of the muriate of morphia; still the latter was eliminated with the most perfect accuracy; and, since nearly the whole of the alkaloid was recovered in both cases, we reduced the quantity used, using in one experiment 0·007 (7 milligr.), and in another only 0·005 gramme (5 milligr.), of the salt, but the reaction with the perchloride of iron was distinct in each case. In another instance we placed into a calf's stomach 0·020 gramme of the salt of morphia, and exposed it for a fortnight to the sun and air. By the end of that time the stomach had become thoroughly putrid, a great number of worms having formed; nevertheless, the morphia was completely extracted and tested by the perchloride of iron reaction.

Again, we added a drop of nicotin to a pound and half of broken food and meat, then two drops of coniin to as much food, both alkaloids being thoroughly eliminated, and tested, especially by the characteristic odor peculiar to them.

9 milligrammes of strychnin were eliminated and tested with perfect accuracy by the bichromate-reaction, after having mixed with food and treated in the same manner as the other bases.

8 milligrammes of narcotin were nearly wholly recovered, and proved.

Finally, we mixed with some meat and vegetable food 0·012 (one-fifth grain) of morphia and as much narcotin, and began the operation, after allowing the mixture to stand in a warm place for four days. The alkaloids being eliminated by the new method, were then separated in the well-known manner by means of ether.

Having satisfied ourselves by these experiments that our method is applicable in all cases where the alkaloids are mixed in dead organic matter, we propose to extend our investigations in two directions. The first, to determine whether the elimination of the bases will succeed in like manner after they have passed the living organization, and especially after having exerted their poisonous effect. Secondly, we shall be able to find whether our method is applicable for the preparation of the alkaloids on the large scale. Considering the small number of manipulations, and the cheapness of the method, since the amylic alcohol can always be recovered, it should certainly appear preferable to the older methods of the manufacturers.

As amylic alcohol is not as readily manipulated as either chloroform or ether—not separating as readily from aqueous mixtures, nor evaporating as rapidly as either of these liquids—it is only advisable to use it for the extraction of such alkaloids as morphine and solanine, which are nearly insoluble in the latter fluids. According to our experiments morphine requires 7725 times its weight of absolute ether or 6550 parts of chloroform to dissolve it, while it dissolves in 133 parts of amylic alcohol. Therefore the latter liquid will extract the alkaloid from its aqueous mixture very readily, while neither of the other fluids will separate more than a mere trace. Many of the poisonous alkaloids are more freely soluble in chloroform than in fusel oil. Thus strychnine dissolves in about 8 times its weight of the former liquid while it requires about 120 of the latter. For alkaloids that are about equally soluble in these three liquids, we should prefer either ether or chloroform for their extraction. Under these circumstances either of these fluids would separate quite as minute quantities of the poison as could be recovered by the fusel oil.

In regard to the recovery of the amylic alcohol, it has no advantage over the other liquids, as they may also be recovered in the same manner. W.

Strychnia and Morphia.

Mr. John Horsley, Analyst for the county of Gloucester, has lately drawn attention to an observation originally made by Dr. Letherby, and confirmed by Dr. Reese and Professor Thomas, of Philadelphia, that morphia has the power of disguising and destroying the colored reactions by which strychnia is recognized. His investigations have led him to the discovery of a method by which the difficulty thus arising may be overcome, and also to a new test for strychnia. He writes :—"I have, however, satisfied myself of another very important fact, viz., that it need not create any alarm or uneasiness in the public mind, for the difficulty in question is more apparent than real; since, in any case where both active principles are capable of extraction from a dead body, the strychnia is effectually separated from the morphia in a form admirably fitted for identification by adopting the following simple method which I had the honor of submitting to the British Association for 1856, viz., to convert the strychnia into a chromic salt by the addition to the pure and concentrated liquid of a few grains of the neutral chromate of potash and briskly agitating the mixture with a glass stirrer for a minute or so, when, if strychnia be present, a more or less flocculent but crystalline precipitate of a golden color will separate and collect at the bottom of the vessel. In the course of a few minutes the supernatant liquor containing the morphia (which is much longer in precipitating) must be carefully decanted. If now a drop or two of the residue containing the golden colored strychnian salt be taken up with a pipette and projected into a small white porcelain dish, and touched with strong sulphuric acid, the usual purple and violet colored indications of strychnia will be most marked. In this way a very small quantity of the poison will suffice for numerous chemical experiments, as demonstrated by me before the Chemical Section of the British Association. A similar precipitate of morphia does not react in this way, but is turned of a green color; hence, when morphia is in excess, it has the power of completely masking the colored reaction of strychnia, which, though present, remains passive and unelicited; but, by the process described, the strychnia can be easily separated from the morphia, or any other active vegetable poison with which it may be associated, when once these have been extracted from a dead body in a sufficiently palpable form. Thus much for the method of separating strychnia when present with morphia; but beautiful and delicate as is this method of detection, yet it is very far inferior to a new reagent I have just discovered, viz., the nitroprusside of sodium, which enables me to detect the 100,000th of a grain with the greatest ease! These may be considered large figures, but are arrived at thus: One grain of strychnia is first dissolved in 100 grains of water; then one drop of this solution is mixed with 999 more of water, and a fragment of the nitroprusside of soda added. When dissolved and well mixed by agitation, a single drop of this solution, equal to the 100,000th of the original grain of strychnia, is let fall into a small white ware dish, and, after evaporation to dryness over a steam bath, is fit for the development of the characteristic color by merely drawing a glass rod dipped in sulphuric acid across the spot. The 3000th part only, with the best experiment, being the limit of the ordinary process, the new test, therefore, exceeds the old by 97,000 times the intensity; in other words, it is about 30 times more delicate."—*London Med. Times.*

If we mistake not, Brieger, in 1850, was the first to point out, in a general way, the fact that morphine possesses the property of disguising the reaction of the color tests for strychnine (Jahrb. für Prakt. Pharm., xx. p. 87). The first quantitative investigations upon this subject were those published in this Journal for September 1859, in which we showed that when the two alkaloids were present in about equal proportions the characteristic reactions were very much interfered with or altogether prevented, while if the mixture contained much excess of morphine the test failed entirely. At the same time it was shown that the results were also somewhat modified by the absolute quantity of morphine present; that is, that a very small quantity of a given mixture might give much better evidence of the presence of strychnine than a larger quantity of the same mixture. When, for example, a mixture containing 100th part of a grain of each of the alkaloids is examined, if they have been thoroughly mixed by evaporating their mixed solutions to dryness, it will give but little or no evidence of strychnine, while a mixture of 1000th part of a grain each will give perfectly satisfactory evidence of its presence.

The method suggested above by Mr. Horsley for the separation of these alkaloids is by no means the best, from the fact that the chromate of potash yields a precipitate only after a time with dilute solutions of strychnine—for example, a 2500th mixture—while from quite dilute solutions it entirely fails to precipitate the alkaloid; on the other hand, concentrated solutions of morphine, yield after a little time a deposit of this alkaloid. It is thus evident that we might have a mixture from which the reagent would yield a precipitate consisting largely or entirely of morphine. It is true, however, that under most circumstances the method would answer perfectly to show the presence of strychnine; but even under the most favorable conditions, a certain amount of the alkaloid would entirely escape precipitation, from the fact that its chromate is but little less soluble in water than the pure alkaloid.

A much better method for separating these substances is by means of chloroform, in which strychnine dissolves in about 8 times its weight, while morphine requires about 6550 times its weight. This liquid will extract the whole of the strychnine, while at most it would take up a mere trace of the morphine. It is true, that it is *possible* to have circumstances under which this liquid would extract as much or even more morphine than strychnine, as when the mixture contained but a mere trace of the latter, but as 1-100th grain of the former requires nearly a fluid drachm of the liquid to dissolve it, while the same amount of fluid will dissolve several grains of the latter, it is obvious that these circumstances would but rarely happen; at least the range of this method would be very much greater than that of the chromate of potash, and at the same time it would recover the whole of the strychnine.

The method of precipitating strychnine by bichromate of potash, and treating the deposit with sulphuric acid, as first suggested by Mr. Horsley, is certainly the best means that we possess at present for the detection of this alkaloid; however, we may have a solution so dilute as not to yield a precipitate with this reagent, and yet contain sufficient of the poison to give a deposit when evaporated to dryness, which, when treated with the color test as ordinarily applied, will give perfectly satisfactory results. His method, however, may be applied to very dilute solutions of the substance. A single drop of a mixture containing only 1-10,000th part of a grain of strychnine, when stirred with a small quantity of the reagent and allowed to stand, will yield after several minutes streaks of granules where the glass rod has touched the glass slide or watch-glass containing the mixture; after standing about half an hour in a cool place, so as to become somewhat concentrated but not evaporated to dryness, it gives a quite satisfactory crystalline deposit, which, after decanting the liquid and drying, yields, with a small drop of concentrated sulphuric acid, a very fine display of the characteristic colors of strychnine.

In regard to the comparative merits of the different color-developing substances that have been proposed for the application of the color test, there has been much written. It is well known that this method originated with Marchand, in 1843, and that he used the peroxide of lead. Since that time the peroxide of manganese, bichromate of potash, chromic acid, ferricyanide of potassium, iodic acid and iodates, binoxide of barium, permanganate of potash, and the positive pole of the galvanic battery, have been recommended as substitutes for the lead compound; but we are fully convinced that if experimenters will give these various substances a fair and impartial trial, they will find less difference in regard to their delicacy and liability to interferences, than would be inferred from consulting the literature upon the subject. The principle of the action of these various agents is the same in all, depending upon the evolution of oxygen and its effect in the nascent state upon the strychnine. Therefore the only difference in these various methods is in the difference of the agents resorted to for the development of oxygen, and we cannot well understand why the source of this oxygen should have any control upon its effect, unless the agent itself, or some substance evolved from it at the same time with the oxygen, prevented the ordinary action of the nascent gas; but this does not seem to be the case with any of the substances above-mentioned.

The statement of Mr. Horsley that the ordinary process, with the best experiment, will only detect about the 3000th part of a grain of strychnine, and that of Dr. Letheby (*London Lancet*, June 28, 1856), that the bichromate of potash will not act well with less than the 2000th part of a grain, is simply a very great error. We have shown above that the precipitate produced from the 10,000th part of a grain by bichromate of potash, when treated with sulphuric acid, will give as satisfactory results as can be obtained from any larger quantity, the only difference being in the amount of coloration produced. The same results may be obtained by evaporating *one grain* of a pure solution containing the 10,000th part of its weight of the alkaloid to dryness, dissolving the residue in a very small quantity of sulphuric acid, and stirring in the mixture a small fragment of the potash salt. This, however, is by no means the extreme limit of the reaction of the pure alkaloid, for the residue from 100,000th part of a grain as obtained by evaporating its aqueous solution to dryness, will, when treated with a small trace of the acid and potash compound, yield very distinct evidence of its presence. There is no doubt that even a less quantity, if collected at one point, would give a distinct reaction. All that is necessary to prove the accuracy of these statements, is for experimenters to carefully and impartially apply the method to these quantities, simply taking care that they use but a very minute quantity of the acid and potash compound. Moreover, as the bichromate method may be made to give visible results with the least quantity of the pure alkaloid visible to the naked eye, it follows that it reaches the practical limit of any of the methods. Now we do not mean to imply that, under all circumstances, this method will satisfactorily detect these minute quantities of the poison, but simply that in its pure state these quantities will give distinct reactions. In ordinary analysis it frequently happens that we have to apply the test to an impure residue, when the reaction of the test may be much modified, but not more so than that of any of the other methods.

As we have but one sample of nitroprusside of sodium in the laboratory at present, we are not fully prepared to state the value of this reagent; but we may safely assert, that if a test at all, it certainly is not more delicate than the bichromate of potash, ferricyanide of potassium, peroxide of manganese, or any of the other ordinary methods. The specimen on hand, although prepared for analytical purposes by one of the most reliable German houses, entirely fails to give any display of colors when applied to very strong sulphuric acid solutions of the alkaloid, yet in its general behavior with alkaline sulphurets and other reagents, it acts as the pure salt. Therefore, either our sample contains some substance, such as a nitrate, that wholly interferes with its reaction, although it does not prevent the subsequent reaction of the ordinary color tests, or Mr. Horsley's contained some substance that produced the display of colors independent of the nitroprusside. As ferricyanide of potassium is formed in the preparation of the nitroprusside, and is itself as fine a color-developing substance as any of the agents recommended, it is possible that this substance was present. The precipitate produced by ferricyanide of potassium, like that of bichromate of potash, will yield a fine display of colors when treated with sulphuric acid; but as it only yields precipitates with solutions containing more than the 1000th part of their weight of the alkaloid, it is not as well adapted for a precipitant as the potash salt. W.

American and Foreign Intelligence.

[From the American Medical Times.]

Foreign Correspondence. By Prof. CHAS. A. LEE.

LONDON, May 14, 1862.

As I promised to send you some "medical jottings by the way," I embrace the first opportunity to post up to the present. Leaving New York on the screw steamer Kangaroo, we had a very rough and uncomfortable passage of fourteen days before reaching Liverpool. As usual, I suffered from sea-sickness all the way. Were I to name all the remedies and specifics for this malady which were recommended me on board, from *salt water* to *chloroform*, I should have no room for anything else in my letter. Suffice to say, I tried none of them but *champagne*, a basket of which was sent me by a friend, on board the vessel; this, cooled on ice, and taken *ad libitum*, came nearer my idea of a specific than anything I could imagine; *taken as a medicine*, for this, and other kinds of nausea and vomiting, I give my voice decidedly in its favor. Some of my companions, miserable wretches, took *chloroform*, on some anonymous recommendation, and suffered more from the remedy, as often happens, than from the disease. *Effervescent mixtures*, like soda and seidlitz powders, and "Farrant's effervescent mixture," of like composition, answered a good purpose in some cases. Most of the sufferers consoled themselves with the idea, that the after benefits would more than compensate for the present suffering; an opinion not exactly consonant with my own experience or observations. I am not about to trouble your readers with an essay on sea-sickness; for, although I know much about it experimentally, I have little knowledge of its true pathology, or proximate causes. No one is better acquainted with its symptoms and phenomena than myself, beyond this I make no pretensions. I will, however, venture to offer a reward of one hundred pounds sterling, to any one who will discover a certain and infallible specific, to be paid by penny subscriptions from all who experience its benefits.

The next subject which pressed itself on my attention, especially as a sanitarian, was the miserably deficient ventilation of the ship. As I occupied a cabin nine feet square, with only four other passengers, taken promiscuously, and that situated just over or near the machinery, where the smell of oil, tar, grease, coal oil, bilge-water, etc., was overpowering, and adjacent also to the cooking department, where, if I could not eat, I had all the benefits of the various savory smells given off by the various dishes, I may say that I labored under difficulties in attaining that degree of comfort which is desirable on a pleasure trip, although it might be endured with patience were there no remedy. We have studied hygiene and sanitary regulations on land long enough to transfer some of our researches, as it seems to me, to our vessels; and especially those engaged chiefly in transporting passengers. A more perfect system of ventilation on board ship is the great desideratum; and I am very glad to find it is occupying more and more the attention of the medical officers of the British as well as the American navy. Although the surgeons of the Royal Navy have, year after year, represented in their Reports to the Admiralty, through the Director General, the influences injurious to health which prevail on board ship, and the best means of remedying them, and though some improvements in the ventilation of the public vessels of Great Britain have recently been introduced, yet they have not become general, and many of their regular sailing packets and steamers are deprived of their benefits. The Reports, to which I have referred, are based on observations and experiences in ships of various classes and under every variety of circumstances and climate; and the same may be said of the reports of our own medical officers to our Naval Bureau. What is wanted is, the adoption of such measures as will obviate and correct the evils so fully pointed out. There is still ample room for improvement, both as regards cleanliness and ventilation, in the forecastle and steerage of our passenger vessels, notwithstanding all that has been done to better the condition of emigrants on board ship; affording them more space, by legal enactments; and also more healthy food, and better cooked, than when this class of passengers supplied themselves with provisions, and quarreled over the coppers in cooking it. There certainly ought to be some means of enforcing personal cleanliness among these unwashed foreigners; for to bodily filth may doubtless be attributed much of the sickness prevalent in the steerage. I trust that some of our skilled sanitarians, such as Dr. Griscom, Van Buren, or Joseph M. Smith, may turn their attention more particularly to this subject of *naval hygiene*, and prepare a work, so much needed, for the benefit of those who "go down to the sea in ships."

In passing through the great manufacturing districts of England, especially in the iron districts of Lancashire, as Wolverhampton and Birmingham, I observed much of the vegetation killed, especially the trees and hawthorn hedges, which is not much to be wondered at, considering the vast amount of noxious gases given off in the various manufacturing processes. On inquiry I find that the evil has become so great, and the injury to animal and vegetable life so extensive, that Parliament, on motion of the Earl of Derby, has just appointed a committee to inquire into and report on the subject. The vapors which have proved so destructive to vegetation are chiefly given off in the manufacture of soda from sea water and common salt; some establishments employing 1,000 hands, and turning out 100 tons or more of soda annually. Some of the chimneys to these manufactories are nearly 500 feet high, for the purpose of carrying off and causing to be dispelled in the air without injury, the muriatic acid and other vapors generated in the process of manufacture. But this has proved an inadequate remedy, and heavy damages have repeatedly been recovered by the large landed proprietors in their neighborhood, from the owners, for injury done to their crops, hedges, and trees, etc.; so that in many cases the manufactories have been destroyed or abandoned. The process of the manufacture of soda, in England, is carried on by the decomposition of common salt by sulphuric acid; and in most of the manufactories I find that the manufacture of sulphuric acid also is carried on in the same building, by condensing the sulphurous vapors given off, and, in three cases, no injury is sustained by the neighborhood, while the profits are much increased. A patent was granted several years ago, to prevent injury from such acid vapors by passing them through water, which has a strong affinity for them, thus condensing and utilizing them. This is said to have proved very valuable to the patentee, though it cannot have been generally introduced.

The injury to animal life is less obvious throughout these districts than to vegetation. This is shown by the high mortality rate, amounting in some places over 20 instead of 8 in 1,000, the average mortality throughout England.

Since reaching London, I have visited some of the hospitals, and become acquainted with several medical men of distinction. Several whom I knew, when here in 1849, are now gone; as Bransby Cooper, Dr. Pereira, Sir John Forbes, R. B. Todd, Dr. Quekett, Marshall Hall, etc. Their places, however, are filled by men of equal ardor and devotion to science, if not of equal merit. The improvements and advance in medical and surgical science within the last ten years are very obvious; and for many of these improvements the world is indebted to London practitioners. Dr. Copland, who may certainly be ranked among the first of living practitioners and writers, is still actively devoted to the practical duties of his profession, notwithstanding the immense amount of physical and intellectual labor he has accomplished. Sir B. Brodie has recently retired from practice, owing to the failure of his eyesight, although he has reached that age when men naturally seek for quiet and repose. No one, in modern times, has attained a more exalted professional reputation than Sir Benjamin; and it will prove as durable as it is eminent, for it is founded on researches which have contributed to enlarge the boundaries of science; while he has ever proved an example, and exhibited a character calculated to elevate the medical and surgical profession in the respect and esteem of society and the world. He, undoubtedly, has the great consolation in his declining days, to feel that he has acted his part well in life, and discharged his professional duties conscientiously. He has retired to a beautiful situation, at (Broome Park) Betchworth, Surrey.

London, June 1, 1862.

It is not my design to report individual cases, which I may observe in my visits to the different hospitals. The most interesting of these are regularly reported in the London *Lancet* and *Medical Times*, and can be copied into your pages, if thought desirable.

The London surgeons operate more fearlessly, and with more rapidity than ours do on our side of the Atlantic; but I very much doubt whether more successfully, except in particular cases. Thus I saw Mr. Ferguson operate for double cleft palate last week, and the operation was completed in fifteen minutes. He afterwards informed me that the average duration of the operation of staphyloraphy in his hands was ten minutes, and that out of one hundred and five cases, he had met with complete success in one hundred and two. This must be admitted to be extraordinary activity and marvellous success. But much of this success is owing to previous frequent manipulations by the finger of the patient, or a tooth brush, of the fauces and parts adjacent, and to the very free separation of the velum palati from the bone, so as to allow great distension. The profession is indebted to Mr. F. for this practice, which he introduced many years ago, but which has recently been claimed by another surgeon as having originated with him. In the removal of scirrhous breasts, which I have seen done by Mr. Paget, Mr. Skey, and Mr. Ferguson, I think the average time employed in the operation was not over two minutes, although in every case chloroform was given, and generally by an inhaler, which admits freely the atmospheric air. One great advantage attending this mode is, that we can regulate exactly the quantity administered; usually from twenty to thirty drops are introduced, and it is rarely necessary to use any more. This shows, at least, how much our surgeons are in the habit of wasting, in their mode of administering it on a sponge or napkin; and, by the way, I may mention that a death from chloroform has occurred near my lodgings within the last few days under the following circumstances: The patient was laboring under fistula. Chloroform was given on a napkin. It appearing to take no effect, more chloroform was poured on, and this was repeated twice. On the third application the patient turned over, and immediately ceased to breathe. All attempts to restore respiration failed. Autopsy showed that the walls of the heart were very thin, and the cavities dilated, with great insufficiency of both mitral and tricuspid valves. There was also fatty degeneration of the organ. Both lungs were strongly adherent to the chest. Throughout the greater portions of their extent, Dr. Gant, of the Royal College of Surgeons, testified on the inquest that, owing to this diseased and enfeebled state of the heart, and to the lungs being incapable of expanding from the extensive adhesions, they necessarily failed under the influence of chloroform, and death resulted instantaneously from paralysis of the heart. I think the case goes far to show that the condition of these organs should be correctly ascertained, if possible, before we venture to give this powerful agent.

I have said that British surgeons operate with more celerity, but perhaps not more successfully than American surgeons. If I wanted proof of this I might quote lithotomy statistics. According to Mr. Bryant (London *Lancet*, May 3d, p. 459) at Guy's Hospital, fifty-seven per cent. of patients above the age of forty, who have been operated on for stone, have died, and the gross result of lithotomy in the provinces is about the same as at Guy's. There are, however, instances where the mortality is not so great. Thus in the Norfolk and Norwich hospitals only twenty-three per cent of patients above the age of forty have died after lithotomy. But if any one will compare these results with those of American surgeons, as recorded in Gross' Surgery, he will find that the percentage of deaths is far greater than with us. Indeed, one of the most distinguished operators for stone in London told me, that he believed the fatality of this operation in Great Britain was as great at the present time as it was one hundred years ago!

I am very glad to find that in the opthalmic hospitals in London and the provinces, as well as in the military hospitals, as at Chatham, the *opthalmoscope* is in general use and highly appreciated. In no branch of our art have I seen such decided improvement within the last twelve years, since I was here, as in opthalmic surgery; and much of this progress is owing to our being able to explore the deep textures of the eye by the ophthalmoscope. This admirable instrument was nearly perfect, when introduced a few years ago by Helmholz; and now there is but one opinion as to its effectiveness, and to its immense importance, in enabling us to investigate diseases, especially of an obscure nature, in this delicate organ. And what surprises me, is to see the degree of tolerance of such examinations, in almost every kind of opthalmic disease; a result we certainly should not have looked for *à priori*. Temporary dimness of vision may in some cases be induced by its use; but by a proper regulation of the quality of light admitted into the eye, we may employ it with advantage in acute glaucoma, or even in retinitis. A metallic speculum is now preferred for the instrument instead of glass, as it is more portable and less brittle, has a small, thin-edged sight hole, and but one reflecting surface. Besides, a metal reflector always gives a clearer and better defined image than a glass one. It is true that some experience is necessary to enable one to derive all the advantages from this instrument of which it is capable; but the same may be said of the stethoscope or any other instrument. *The division of the ciliary muscle* of the eye for glaucoma, opacity of cornea, etc., may also be mentioned, as evidence of progress in the treatment of this class of diseases.

This operation I saw performed several times, and very skillfully, by Mr. Hancock of the "Royal Westminster Ophthalmic Hospital," and with decided benefit. Thus, out of 511 principal operations performed at this institution during the last year, I find that this operation has been resorted to in 118 cases. Of a variety of affections, about 1000 patients are here annually treated, and there is no better place for students to study this class of diseases.

Mr. Czermak, of Prague, the inventor of the *Laryngoscope*, has been in London recently, and showing upon himself how readily and successfully the instrument may be used. Mr. Paget speaks favorably of it, but doubts whether it can be successfully introduced into practice. It is something like injecting the bronchial tubes—very easy to describe, and very difficult to accomplish. Mr. Czermak showed, as long ago as 1859, that it was possible, by the aid of his laryngoscope, to apply local cauterizations in the larynx and the naso-pharyngeal cavity; but the same can be done without. But then, how can we ascertain whether there is disease enough in these parts to require local treatment? In some cases, probably, we cannot, but as a general rule I think we can. The rational signs, in such cases, are generally pretty clear and decided; I know that we have reports that polypi of the larynx have, in two cases, at least, been removed by the aid of this instrument. But, as Mr. Paget remarked to me, it must always be a very difficult operation, inasmuch as the image is reversed, and every one knows how very difficult it must be to operate under such circumstances. Here, we have to introduce the laryngoscope with one hand, and keep it immovable in such a position and inclination, as to reflect the desired image, while with the other, holding a suitable instrument, we proceed to operate. But the difficulty I have named is so great, that it would require a constant practice, and for a considerable time, to enable a surgeon to attain even a moderate degree of success in the use of the instrument. Owing to these causes the laryngoscope has been, as yet, very little used in this metropolis, and I may very safely predict that it will be a long time before it will be. The inventor, however, is a very talented and ingenious surgeon, and certainly deserves, if he does not meet with, great success. That scientific merit, sooner or later, meets its just reward, I may mention the splendid and unprecedented success which has attended the career of our friend, Dr. Brown-Sequard, since he came to this city. In no instance has great professional success created less envy, inasmuch as all cheerfully acknowledge that it has been fairly earned. As the head of the great "National Hospital for the Paralyzed and Epileptic," instituted by the Lord Mayor, at the Mansion House, November 2, 1859, and under his presidency, and supported mainly by the nobility, Dr. Sequard has found a theatre worthy of his science and his skill; and with considerable success, which has attended his efforts, demonstrates the soundness of the physiological and pathological views he has inculcated in his various writings and lectures. This success, moreover, has, as its fair and legitimate consequence, introduced him into the largest practice, in the greater class of nervous affections, of any practitioner in England. The out patients of his hospital number at this time over 800, while his private patients are so numerous as to occupy every moment of his time. He is called on, daily, by patients from almost every part of Great Britain, and no small portion of them belong to the class of the nobility. Surely, such an example as this may well be held up to the younger members of our profession, to show them that industry, perseverance, energy, and real merit, will sooner or later meet its due reward. I may also mention, by way of example, that since Brown-Sequard commenced his scientific investigations he has never attended a place of amusement, or allowed any thing to draw off his mind and attention from his pursuits; and although he resided in Paris, at the time of the great International Exhibition, and daily passed by the building, he never entered it, and has no idea, to this day, what there was in it.

LONDON, June 8, 1862.

Passing over, for the present, many interesting matters I have observed in the different London Hospitals, I will present to your readers some account of the organizations of the British "Practical Army Medical School" at Chatham. Having been politely favored by Dr. Gibson, Director-General of the Medical Department of the British Army, with a letter of introduction to the professors, I yesterday took the cars at London Bridge, and after a pleasant ride of an hour and a half through a richly cultivated portion of Kent, reached Strood Station, and taking a ferry-boat crossed the Medway, and soon found myself at old Fort Pitt, the seat of the School. A more beautiful and commanding position for an establishment of this kind could nowhere be found; situated, as it is, several hundred feet above the river, entirely overlooking the old city of Rochester, its majestic old Castle and Cathedral of Norman architecture; the city of Chatham, with its forts, barracks, navy-yard, arsenal, convict prison, etc., together with a magnificent region of country for many miles in extent; and the river crowded with ships of war, and numerous vessels lately engaged in the suppression of the slave-trade. The Army Medical School, I may remark, grew out of the recommendation of the Royal Commission on the Sanitary State of the Army, made in 1859; which recommendation, I believe, was the result of observations in regard to the qualifications of assistant surgeons during the war in the Crimea. The School went into operation in 1860, with four professors, viz.: T. Longmore, Esq., Professor of Military Surgery; Dr. Morehead, Professor of Military Medicine; Dr. Parks, Professor of Hygiene; and Dr. Aitkin, Professor of Pathology: with a salary of £700 sterling to each professor. An attendance of at least four months at this School is required of every candidate for admission into the medical service of the British and Indian armies. The candidate must be unmarried; at least twenty-one, and not above twenty-six years of age; must produce certificates of moral conduct and character; must labor under no mental or constitutional disease; nor any disability that can interfere with the most efficient discharge of the duties of a medical officer in any climate. He must possess a diploma in surgery, or a license to practice it, from the Royal College of Surgeons of England, Scotland, or Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or some other corporate body legally entitled to grant a diploma in surgery, or a license to practice it. He must also possess a degree in medicine, or other legal qualification to practice medicine in Great Britain or Ireland.

If he possess the foregoing qualifications, the candidate is examined on anatomy and physiology, surgery, medicine, including therapeutics, diseases of women and children, and pharmacy. The examination is practical, and includes operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bed-side. He is also examined in comparative anatomy, zoology, and botany, with especial referference to materia medica. The names of successful candidates are then sent to the Director-General, or the Physicians of the Council of India, and communicated to the Professor of the Army Medical School, the names being arranged in three classes:—1st. Those who have passed a pre-eminently distinguished examination, arranged in their order of merit; 2d. Those who have passed a creditable examination, similarly arranged; and 3d. Those who have passed the *minimum* examination, also arranged in alphabetical order, according to merit. A statement is also furnished the professors in regard to the topics or branches in which each has excelled or fallen short, which enables the professors to carry out their instructions with a definite aim as regards each class. After passing this examination, which is a rigid one, each candidate is required to attend closely one entire course of practical instruction at the School, before being admitted to his examination for a commission, which is on—1. Hygiene; 2. Clinical and Military Medicine; 3. Clinical and Military Surgery; 4. Pathology of Diseases, and Injuries incident to military service. These courses are not less than four months' duration. This examination is conducted by the Professors, but the Director-General, or medical officers deputed by him, or the Physician to the Council of India, are generally present, and take part in it. If the candidate pass satisfactorily, he is then eligible for a Commission as Assistant Surgeon.

While residing at the Army Medical School, each candidate receives an allowance of five shillings. sterling per day, without quarters, to cover all costs of maintenance; and he is required to furnish himself with uniform, *i. e.* the undress uniform of an assistant surgeon, without the sword. There is a large military hospital in connection with the School, now containing over three hundred patients, sent from all parts of the British dominions; thus illustrating the diseases of every climate and quarter of the globe. The School has a distinct and independent existence under the Secretary of State for War, and is governed by its own Senate. It is open to all Army Medical Officers. By the kindness of Dr. Parkes, I was shown by him every part of the establishment, and had every thing fully explained to me. The museum is most extensive, and consists of four divisions:—1st. A collection of pathological anatomy, having special reference to the more prevalent diseases of the army. This is one of the most extensive, and I think the most valuable collection of morbid specimens I have ever seen, gathered, as it has been, from all parts of the world. A curator is constantly employed preparing and taking care of the specimens. 2d. A collection of specimens in geology and natural history. The Museum of Natural History is especially rich, containing many preparations and specimens not found even in the British Museum. 3d. A collection of materia medica and alimentaria, containing specimens of more important articles, both in their natural and prepared states; and of the principal seeds, grains, pulses, and other dry and prepared articles of food, from all parts of the world. 4th. A collection of plans and models of whatever is used in the army for the conveyance, support, or protection of wounded men; models of tents, hospitals, and the like. A bare enumeration of these articles would fill several pages. They readily teach through the eye, what could not be understood by description alone. The Library is very large, and contains all the standard works in every branch of medicine and the allied sciences. Attached to the Library is an ample Reading Room, well furnished with maps, plates, prints, periodicals, etc., though I saw none from the United States among the large number on the table. Two sets of candidates for commissions are ready every year; so that six months' residence at the School and Hospital is required, including courses of not less than four months' instruction by lectures. I need not add that the Lectures and Practical Instructions delivered at this School are directed exclusively to the Specialities of Military Medical Service. For example, the lectures on *Hygiene* are directed to impress forcibly on the mind of the student the whole principles on which the prevention of disease is based, not only in their scientific but in their practical aspect; and from thence the professor points out the special application of these principles to the preservation of the health of troops in barracks, garrisons, stations, camps, and on marches, both by practical instruction in the problems of Army Hygiene, and by reference to maps, diagrams, models, instruments, and other modes of illustration. The professor of *Clinical and Military Medicine* attends to clinical instruction in the Hospital, and gives systematic lectures on the diseases of armies. His teachings at the bed side have special reference to the more prevalent diseases of armies. He exercises the pupils in drawing up accurate histories of cases of disease under treatment; and examines and practices them in various methods of diagnonis, by auscultation, the use of the stethoscope, and the application of chemical tests. He delivers clinical lectures on the cases under treatment, and illustrates the management of hospitals, as to cleanliness, ventilation, nursing, etc., and points out the hospital diets in different diseases, and stages of disease, and during convalesence.

The professor of *Clinical and Military Surgery* also gives a course of lectures of a special and practical character, having constant reference to clinical instruction in the surgical wards of the hospital. So also the lectures on *morbid anatomy* are richly illustrated by specimens, and aided by accessory methods of observation, such as carefully recorded histories of cases of the more important and severe diseases prevalent at the military stations abroad. The students are instructed practically how to conduct pathological investigations and post-mortem examinations; how to examine the viscera; and how the results of diseased processes are to be distinguished from post-mortem changes, etc. A full course of practical instruction in the use of the miscroscope is given, together with its application in determining the nature of diseased conditions. I counted nineteen large achromatic microscopes in use. The students are shown and taught how to arrange and manipulate the instrument; the various modes of examining objects by it; of drawing the objects seen; of measuring the dimensions of the objects examined; how to examine tissues and morbid products, and apply chemical agents for their analyses, under the microscope; and lastly, they are taught how to preserve microscopic objects. Practical chemistry is thoroughly taught, so that each student is qualified to analyze foods, drinks, poisons, soils, water, urine, blood, etc. He is also instructed in the mode of preserving specimens illustrating diseases, or comparative anatomy, or natural history, so that they may be sent home from abroad.

I have thus given a very full account of this army school, inasmuch as it will serve as a very perfect model for one of a similar kind in our own country. It is very evident that such a school is imperatively needed; especially if, as seems most probable, we shall have to keep a large army in the field, for a long time to come. Our medical schools do not, at present, furnish that instruction which is specially needed for the military service, and this will be evident from the enumeration of topics and courses of instruction pursued in the army medical school at Chatham. Indeed, it is impossible in our medical schools, as their courses are at present arranged, or even under any circumstances (inasmuch as they are particularly designed to qualify for civil practice), to furnish that kind and degree of instruction, which is needed to prepare a young man for the proper and satisfactory discharge of his duties as a military surgeon. I sincerely hope that long before I return, this subject may be so brought to the notice of our Government, as to result in the establishment and endowment of a MILITARY MEDICAL SCHOOL, which will compare favorably with that of Great Britain.

LONDON, July 6, 1862.

There are numerous objects of great interest to medical men in the great International Exhibition, to which I propose to devote a few letters. The magnificent display of the products of nature and art from every part almost of the habitable globe, far greater than has ever before been collected in one place, would well repay an American for a trip across the Atlantic; and, apart from the natural scenery and geographical features of different countries, will teach the careful observer more in one week than would be learned by many months or even years of travel. I have devoted a week or more to the examination of the various articles, and feel that I have but just begun to know even superficially what is to be found in the great collection; to do the individual articles justice or examine them so as to be a source of profit hereafter, would require many months of careful study.

Let us first glance at the chemical and pharmaceutical products. These are chiefly contained in the Eastern annex. They may all be included under the heads of, Chemicals used in manufactures; fine chemicals and rare products; dyes, pigments, and varnishes; pharmaceutic alchemicals and drugs; and miscellaneous chemical manufactures. Under the first class may be included the various acids, iodine, phosphorus, alkalies and their compounds, alum, sulphate of copper, chloride and oxide of tin, nitrate of lead, chloride of gold, nitrate of silver, benzole, etc. *Amorphous phosphorous*, which is much harder and less inflammable than the ordinary form, is worthy of notice, inasmuch as its manufacture does not cause disease among the workmen, and the manufacture of Lucifer matches from it has just been introduced into England, although employed for this purpose several years past, I believe, on the Continent. In the matches made from it, the match-tip contains chlorate of potash, and the friction tablet on the box, amorphous phosphorus; and it is not till the two are rubbed together that combustion can take place, the two bodies when separate being incapable of becoming inflamed by friction. The peculiarity of these matches therefore consists in the separation of the two materials which by friction cause combustion. Amorphous phosphorous is only inflammable when rubbed in contact with chlorate of potash or black oxide of manganese; of course they do not ignite by any ordinary friction, and no danger arises from their being carelessly used or thrown about by children.

Splendid and numerous specimens of crystals of carbonate of soda are exhibited, some masses in nearly perfect rhomboidal prisms, many inches in length. The importance given to this substance is readily perceived, when we learn that there are now over fifty establishments in Great Britain in which soda is manufactured on a large scale by the decomposition of common salt with sulphuric acid, producing 3000 tons of soda ash per week; 2000 tons of soda crystals, 250 tons of bi-carbonate of soda, and 400 tons of bleaching powder also each week, the total annual value exceeding two millions sterling.

There are also beautiful specimens of the metal *sodium*, which until lately was a purely chemical curiosity, but now manufactured in large quantities as a commercial article, for the purpose of reducing aluminium from its compounds. It is silver-white; so soft at ordinary temperatures that it may be easily cut with a knife or pressed between the finger and thumb; melts at 194° F., and oxidizes rapidly in the air, inflaming when a few drops of water are added to it. But perhaps there is no more interesting display in the list of chemicals than that of the *Cave Products*, including *aniline* and its various salts, and aniline dyes. But before speaking of these, I may refer to a splendid collection of *bile products;* a piece of *iron* made from the blood of an ox; a specimen of the new metal *thallium*, lately discovered by means of *spectrum analysis* by Mr. Crooke; and specimens of *cæsium* and *rubidium* discovered in the same manner by Bunsen and Kirchoft. I have already referred to this subject in one of my former letters, but its importance perhaps deserves further elucidation. At a late meeting of the Royal Society I saw the subject beautifully illustrated by electric light, and a large solar spectrum by Professor Miller of King's College. If any salt of soda is burnt in a flame it gives a yellow light, and if a beam of this monochromatic light is passed through a prism it produces a well-defined series of red lines, lithium another set, and thus it is found that every substance produces its own peculiar spectral image. In this way the two new metals here exhibited, *cæsium* and *rubidium* (*cæsius*, grey—*rubidus*, red) were discovered in the alkaline waters of Durkheim, but in so small a quantity, that he evaporated down 500 tons of this water to get about 100 grammes of the chloride of rubidium, and 70 grammes of the chloride of cæsium; so that out of 44 tons of water, he got only about 200 grains of the mixed chlorides of these two new metals. Dr. Stenhouse exhibits a choice collection of the proximate principles discovered by him in the *lichens* and *algæ*, with other rare chemicals, the result of his own researches; while Dr. Church contributes a curious collection of the rare vegetable acids, such as *tolnic acid*, *suberic acid*, *pieric acid*, and their salts, with many others. Never before have I seen such large quantities of the *vegetable alkaloids* and their *salts*, as are exhibited by Mr. Hulle and Mr. Squire. Here are all the products of opium; the alkaloids yielded by the aloe tribe; and *coffeine*, of which the coffee of Martinique yields much the largest percentage; also *theine*, the *volatile organic acids* and their *ethers*, *essential oils* and their *essences*, etc. The splendid specimens of *paraffin* call to mind a suggestion which the rare sagacity of Liebig made more than ten years before its discovery. "It would certainly be esteemed one of the greatest discoveries of the age," says Liebig, "if any would succeed in condensing coal gas into a white, dry, solid, odourless substance, portable, and capable of being placed on a candle-stick or burned in a lamp." And now we have the solid white paraffin made into candles, whiter and finer than the purest wax, while the liquid products are sold for burning in lamps and for lubricating properties. It is worthy of mention that not a single explosion has ever occurred from Young's paraffin oil, although millions of gallons of it have been consumed in Great Britain. Many dangerous naphthas, however, are sold under this name. Most of the specimens of paraffin in the exhibition, have been obtained from turf or peat, and brown coal, although it may be procured from the various petroleums, bitumens, and coal oils, or bituminous coals. We can hardly over-estimate the importance of this discovery. I suppose that this is the finest collection of chemical products the world has ever seen. But let us return to *aniline* and its beautiful dyes. This substance, first formed by Unverdorben, by acting on indigo with hydrate of potash, is a colorless limpid liquid, of an agreeable vinous odor and burning taste, and takes its name from *anil*, an Indian word, applied to one of the plants from which indigo is obtained; afterwards it was found in coal; and, in 1856, Bechamp discovered a method of forming it from benzole, by mixing it with nitric acid, which converts it into *nitro-benzole*, and then subjecting it to the action of acetate of iron, in the form of acetic acid and iron-filings—the resulting decomposition furnishing aniline in large quantities. As it is a base, it forms crystalizable salts with acids, which are analogous to those formed from the metals. The sulphate is the salt generally used in the manufacture of dyes. I believe it was Dr. Hoffman, who, by pointing out the test for the presence of aniline, led the way to the discovery of the new and splendid aniline series of dyes: although it was Mr. Perkins, son of the American steam-gun Perkins, who discovered *mauve*, or "Perkins's purple," whilst endeavoring to make artificial quinine. I need not point out the chemical processes for obtaining these magnificent new colors, as they may probably be found in recent chemical works. They are known as *mauve*, *magenta*, *fuchsine*, *rosaniline*, *indisine*, *asaleine*, *etc.*, which are only modifications, probably, of the same substance, *aniline*. There are three large splendid crowns of acetate of rosaniline, in large octahedral crystals, possessing a metallic lustre, rivaling in effect the wing cases of the most brilliant Indian beetles.

I pass over the *dyes from lichens and madders*, *lac-dye*, *indigo*, the various *pigments and varnishes*, *etc.*, which, though highly useful in the arts, are not particularly connected with medical science, to notice *Medical and Pharmaceutical Products.* The Pharmaceutical Society of London exhibits a very complete collection of these, including nearly every preparation found in the new edition of the British Pharmacopœia. Here, perhaps, is the finest collection of *Cinchona Barks* ever brought together; each specimen of bark being placed in front of an excellent specimen of the species of cinchona tree from which it has been taken; near by, also, are specimens of the living plant; associated with them is a fine series of quinine and other cinchona alkaloids. The samples of *ether, chloroform,* the *essential oils,* and the *opium alkaloids,* are on a very large scale, while the specimens of *codeine* are, perhaps, the finest ever seen crystalized in large masses. *Cod-liver* and *Dugong oil* figure largely, while there is a large display of the various *syrups;* among the rest, our American preparation of the *compound syrup of phosphate of iron,* absurdly called "chemical food." The *Fluid Extracts* of the most important substances are also exhibited; and as alcohol is considered as a very objectionable adjunct in making these preparations, *glycerine* is substituted in its place, as well as a solvent for many of the alkaloids and other vegetable principles. It has this advantage, that fluid extracts prepared with it remains unchanged for a long time, and are perfectly miscible with water. The extracts, I believe, contain about 15 per cent. of glycerine. Here, also, I saw *pepsine wine, santonin, kamala,* and cigarettes of the *datura tatula,* which is believed by many superior to the common stramonium in alleviating asthmatic complaints.

I should have stated that the *chloroform* exhibited is chiefly from the manufactory of Messrs. Flockhart, Duncan & Co., of Edinburgh, whose establishment I visited in 1849, and was furnished with their formula. They then had acquired a great reputation for the excellence and purity of the article they produced, and this reputation has been fully sustained to the present time. The samples which they now exhibit, are produced from pure alcohol and also methylatic spirit. No one can examine this extensive collection of pharmaceutical products, contributed by many pharmaceutists, not only of London, but also of the country, without being struck with the very great advancement made in this branch of our profession, within the last ten or fifteen years. Not only have many new substances been discovered or isolated from the crude vegetables containing them, but the evidences of more careful, scientific and skillful manipulation are everywhere apparent. This is especially obvious in the preparation of *solid* and *fluid extracts,* as well as *syrups* and *ointments.* Still, there can be no doubt that these latter are far inferior to the same preparations of the Messrs. Tilden, of New Lebanon, and other manufacturers in the United States; inasmuch as they are not prepared *in vacuo,* I believe, in a single instance. The vacuum-process has long been adopted in our *own* country as well as France, but scarcely at all in Great Britain; hence, their solid and fluid extracts, though elegantly put up, are quite inferior in efficacy to both American and French.

They neither keep as well, nor are they of equal strength. It seems to be supposed by some, that evaporation *in vacuo* can only take place at a temperature of 212° F., which would be sufficient to decompose the active principles of the articles employed. But the Tildens conduct this process at the temperature of 120°. There are some extracts exhibited from which the albumen has been removed; some inspissated at low temperatures in a current of dry air, and some effected in shallow earthen pans at a temperature not exceeding 120°, with constant and active agitation. There are, probably, very few specimens but what would become mouldy on exposure to the air, and few but what would rapidly deteriorate from the same cause. I do not find that much attention has been paid here to the influence of cultivation, different soils, or fertilizers, in modifying the constituent principles of plants. In this respect our countrymen and especially the Messrs. Tilden have taken the lead, although Mr. Lawes of Rothamstead has recently instituted some experiments in the same direction.

But I am in danger of extending my letter to too great a length. I have recently been visiting and obtaining plans, etc., of the best constructed civil and military hospitals in Great Britain, and have been kindly aided by the government officials, especially Capt. Galton, one of the commissioners appointed by Parliament in connexion with Lord Herbert and Dr. Sutherland "for improving the sanitary condition of Barracks and Hospitals." Hereafter I shall have something to say on these important subjects.

London, July 10, 1862.

My last letter was occupied with matters connected with the Great Exhibition. The present will be devoted to the same objects.

The immense display of surgical instruments from almost every country on the globe, except our own, including even Japan, cannot but attract the notice of medical men. My notice of them, however, must necessarily be very general and brief; but you will find excellent descriptions, with illustrations of all the most important instruments here exhibited, by Dr. Feaer, in the "London Medical Times and Gazette," to which I would invite your attention. Most of the instruments and appliances intended for the cure and relief of disease, are collected and arranged in one department, and form a class especially devoted to the purpose, and of course are readily examined and compared. There are about 130 cases of surgical instruments exhibited of all sorts; about one-fourth of them dental; and there is no end to the plasters, stretchers, artificial limbs and eyes, respirators, breast-pumps, magnetic apparatus, electro-chemical baths, stethoscopes, sphygmometers, ozonometers, philosophical and chemical apparatus, &c. A slight general survey will satisfy the observer that human ingenuity has been taxed to the utmost, and has actually supplied all the mechanical apparatus and instruments which can possibly be devised for the cure or alleviation of human ailments, and that nothing more remains for human invention to discover in this department hereafter. No man of philanthropic feelings, can view these immense collections without a sentiment of pride and gratitude, that so much science, skill, and ingenuity have been so successfully exerted in devising means for the relief of human suffering.

The improvements in the mechanical department of surgical science have been immense during the last quarter of a century, and even during the last ten years; and as much has been done to simplify instruments and render them more practically useful, as in the invention of new ones. It is, however, very evident that many surgical instrument-makers lose sight of that important maxim, that simplicity, not complicity, is the object to be aimed at in their construction. The French, as it seems to me, have been especially regardless of this principle; while the English have always kept it more in view. It would perhaps be invidious to make a comparison between the French and British exhibiters, but I am free to say that the relative progress of the two nations, in this regard, during the last ten years, appears to be in favor of the English. The instruments of the latter have undergone a most marked improvement in regard to lightness, skillful adaptation to the end designed, elegance of finish, and ingenuity of construction. The recent improvements in orthopœdic surgery are especially worthy of note, especially the appliances intended to counteract the paralysis of certain sets of muscles, as of the foot, forearm, and hand. I am tempted to pass over that unscientific, unphilosophical, and horridly cruel instrument, the *écraseur* and its various modifications, invented by Savigny nearly one hundred years ago, and long since fallen into disuse. It is to be regretted that, in this humane age, any surgeon of any country can be found who will give any countenance to such a barbarous instrument, or that any manufacturer dare exhibit it among the legitimate appliances of scientific surgery.

The recent increased attention given to diseases of females has stimulated inventors to furnish a great variety of instruments intended for the relief of this class of diseases, such as pessaries, uterine sounds, hysterotomes, instruments for the treatment of uterine polypi, vesico-vaginal fistula, *intra* and *extra* uterine and vaginal specula, &c.

Nor have diseases of the male genital organs received less attention, as shown by the great variety of catheters, sounds, dilators, scarifiers, lithotrites, urethrotomes, and even urethroscopes; by which we are able to see the interior surface of the human bladder, just as we can see the vocal cords and internal surface of the larynx, by means of the laryngoscope. Moreover, we are glad to see saws of lighter construction and more teeth; bone forceps of different curves, and capable of more extended applications; new and improved trephines; and very ingenious appliances, intended to relieve congenital and other deficiencies of the hard and soft palate. In regard to chloroform inhalers, unfortunately rarely used in the United States, I must acknowledge myself wholly converted to the expediency of employing them whenever this powerful agent is administered. It is true I have administered it a great many times on a napkin without any fatal accident, but I shudder when I think of some of my cases, where resuscitation was effected with difficulty. I have seen much of chloroform inhalation since I have been in London, and no approach to danger where an inhaler was used; but in two cases where it was administered on a napkin, both the pulse and respiration were suspended for a considerable period. There are patent inhalers of Weiss, Snow, Clover, and other manufacturers, which regulate with the utmost exactness both the percentage of atmospheric air, and chloroform, which the patient inhales, so that there is not the slightest danger whatever of any accident from administering too large a quantity, if ordinary care be used. Four per cent. of chloroform is as large a proportion as it is safe to give. This exact quantity can always be secured by a properly constructed inhaler.

The cases of M. Charrière, the celebrated French instrument-maker, will well repay an attentive examination. For originality and ingenuity of contrivance, I believe this manufacturer stands unrivaled. His urethrotomes, dilators, and lithotomes have a world-wide celebrity, and his specula of two, three and four valves, are as yet unsurpassed. I do not learn that his uteroscope has been of much practical service as yet, although favorably noticed, I believe, by the French Academy of Medicine; his modified tracheotomy tube is far superior to the one in ordinary use; and his new obstetric forceps, the blades of which can be elongated, have some important advantages over those of the ordinary kind.

But it is impossible amidst such a lavish display to go into detail in regard to particular instruments; a few national characteristics it may, perhaps, be well to notice. The French, it seems to me, excel in novelty, smoothness of finish, and temper of the steel; they have also a greater variety; while the English makers study practical utility more, and adaptation to objects in view. There is a profusion of gold and ivory about some of the English cases, in the form of gilded blades and ivory handles, which are not in good taste, but rather meretricious ornaments, which, if they do not positively detract from, certainly add nothing to the value of the instruments. I regret that none of our American instrument-makers have entered the lists in this department, as I am satisfied, their ingenuity, skill, and workmanship would not suffer by comparison with any of the competitors whose samples are now on exhibition here. In artificial limbs, for example, we can, unquestionably, bear away the palm from all competitors. We may not be able to show so great a variety as the French, as we study simplicity and practical utility more; but we can at least point to as successful results from our great operations, and those of a more delicate, though not dangerous kind, as those of the eye, for instance, as the French, English, or any other nation. It is doubtful whether mere mechanics can, at all, appreciate the possibilities of the simplest instruments in the hands of a skillful and scientific surgeon. Science and mechanics tend to opposite extremes, and draw in opposite directions. The first aims to do away with all mechanical appliances whatever, or at least as far as practicable, and rely on the simplest means; the other resolves all skill and all success into some ingenious contrivance, which is almost automatic. This is well illustrated in the operation for lithotomy. A good anatomist will ask for no ingenious lithotomes, etc., to reach the bladder, but prefers a simple scalpel to all the contrivances of a Charrière, a Lue, or a Weiss; and so in other cases. Look also at the strange and bungling contrivances for compressing arteries in cases of wounds, amputation, or the treatment of aneurism, known as tourniquets! How inferior most of them to the thumb of an assistant!

I had intended to speak of a trocar, invented by Mr. Spencer Wells, for the evacuation of the contents of an ovarian cyst, consisting of a steel tube sliding inside a canula of silver or other metal. I have seen this gentleman use it in a case of ovariotomy, but the fluid was too thick and gelatinous to flow through it; where the contents are quite fluid, I have no doubt it would answer a useful purpose.

Sanitary Inspection in the Army.

One of the most important clauses of the Act reorganizing the Medical Department of the Army, was that creating a bureau of sanitary inspection, with a corp of inspectors. Every European government which has perfected its military organization within the last few years, has given especial attention to the systematic enforcement of hospital and camp hygiene. Medical officers have been detailed with ample powers to secure the observance of the most stringent sanitary rules. The good effects which have followed such wise legislation, are strikingly illustrated in the history of the English army. An eminent writer states that, under the new system, an exact account is kept of the diseases of every soldier from the day he enters to the day he leaves the army or dies on the pension list; and the returns are so arranged as to exhibit the diseases of every regiment separately, as well as the amount of disability, invaliding, and death produced by each malady, and as far as possible by each conspicuous cause. The variable sanitary state of the army is thus brought clearly before the eyes of the Medical Department, the commanding officers, the

Commander-in-Chief, and the Secretary of State, so that evils, instantly known, can often be suppressed as they arise. The force at home, he alleges, consists of men in the prime of life, between the ages of 20 and 40, generally unmarried, and living hitherto in barracks. He believed that "whereas 17 in 1,000 of these men at home had died annually, a body so selected, well fed, well lodged, and well handled, morally and physically—admitting only recruits satisfactory to the examining medical officer, and parting constantly with its invalids—should not experience a higher rate of mortality than that expressed by 7 in 1,000; the rate of mortality actually experienced by the population at the corresponding ages in the healthy districts of England. The result was nearly achieved in the corps at home in 1859. The mortality of the Foot Guards had been 20 per 1,000 (1837–46), and fell to 9; that of the infantry of the line had been 18, and fell to 8; which was also the mortality of the cavalry, the engineers, and the artillery. The annual deaths among all arms of the service at home had been 17.5; the deaths at Shorncliffe and Aldershott in the three years 1857–58–59 were at the rate of 5 in 1,000. The previous excess was referable to zymotic diseases, such as fevers, cholera, diarhœa, and to consumption; the effects of crowding in barracks, of bad ventilation, bad water, bad drainage, badly chosen sites, bad cooking arrangements, and the absence of the means of cleanliness. A great result has been realized; in England hundreds of lives have been saved; indeed, a battalion living in arms at the end of the year 1859 would, at the previous rates, have then lain buried in their graves. Severe sickness has also decreased, and the vigor of the whole body of healthier men has, no doubt, increased in proportion."

We may gather a more correct idea of the character of the sanitary inspection instituted by the English government, from the instructions given to the Sanitary Officer dispatched with the Expeditionary Army to China. He was directed to accompany the officer appointed to select hospitals or quarters for troops, whether temporary or permanent, and examine into the sanitary condition of the buildings, their drainage, ventilation, water supply, and every point likely to affect the health of troops or welfare of the sick, and point out to the Quartermaster-General every defect requiring removal or remedy. When troops were landed to occupy towns he was to make a careful survey of the same, and prepare a plan for organizing a proper sanitary police to preserve cleanliness, remove nuisances, and for the execution of all measures necessary for the health of the troops. When a site for an encampment was about to be selected, he was to proceed with the Quartermaster-General to examine the locality, and advise as to its salubrity; when the grounds were selected he was to make such recommendations as he deemed necessary as to their proper preparation, the arrangement of tents, the number of men to occupy each, the maintenance of cleanliness, the supply of water, the position of latrines and slaughtering houses, the removal of refuse, the interment of the dead, drainage, etc. He was to keep himself constantly informed of the general condition of any occupied town, camp, or hospital, as to ventilation, cleanliness, surface drainage, and all local matters affecting the health of the force. He was to make a daily inspection of the whole camp or occupied portion of the town, giving early attention to the appearance of any disease likely to become prevalent, and examine as to the source of the same, whether it proceed from sanitary defects in cleansing, draining, nuisance, over crowding, bad ventilation, unwholesome water, dampness of site, marshy ground, or other local cause, as bad or deficient food, intemperance, unwholesome liquors, unripe fruit, defective clothing, want of proper shelter, fatigue, exposure to the vicissitudes of weather. When the army advanced, he was to collect information as to the medical topography of the district, with reference to selecting camping grounds. If the troops passed through a malarious district he was to indicate to the commanding officer the means of preventing attacks of disease on the march, and he was advised to have the troops served with some refreshment, as coffee, before marching, as also quinine wine, as a daily ration, during the months when fever and bowel complaints prevail. In operations by river the troops were to be served with tea or coffee before disembarking, and refreshments were to be given immediately on their return. In river expeditions he was to visit daily each vessel conveying troops, and inquire into their sanitary condition, the cleanliness, ventilation, use of deodorants and disinfectants, etc., and to require the daily inspection of the men in order to detect the earliest appearance of scurvy or zymotic diseases, especially cholera. He was to inquire into and examine regularly the nature of the supplies and provisions for the troops, whether the food was sufficiently varied in its constituents and amount, whether properly cooked, and to report all defects. The clothing was also in his charge, and was to be adapted to the variations of the climate; to guard against chills, he must prevent, as far as possible, the soldiers from sitting in huts and tents with the outer clothes off, or heedlessly open. To prevent scurvy, he must order the issue of rations of lime-juice and sugar three or four times a week.

Such was, in brief, the character of the sanitary inspection of the British army while serving in China. And what was the result? Those who have faith in the health-giving efficacy of the simple laws of hygiene, rigidly enforced, will be prepared to learn that the army in China passed through a most toilsome campaign, exposed to every hardship and variation of climate, and yet maintained a better degree of health than the average of the people of England in civil life. Had such thorough and systematic sanitary inspection been carried out in the Army of the Potomac, there can be no doubt that it would have triumphantly accomplished its purpose, and fulfilled the glorious prophecies of its friends. Well did Lord Palmerston remark, in alluding to the remarkable healthiness of the British army since sanitary inspection was instituted, "that nothing was more important than the preservation of the health of the army. Putting it on the lowest grounds, there was nothing so uneconomical and prodigal as carelessness on this point. But in reality it stood on higher ground, because if men were enlisted for the service of the country, the government was bound to take due care of their lives. No money could be better laid out than in guarding the health of the soldier from the influences to which it was subjected."

The war of the rebellion found the medical department of our army unequal to the exigencies. Under the pernicious system of promotion according to seniority, and no retirement of officers on account of age, the principal offices had become filled with men past the period allotted to human life. Its Chief was an octogenarian, and had long before sunk into dotage. The sudden enlargement of the army put the department to the severest test to attend to its simplest wants. Under these circumstances, sanitary inspection of camps, hospitals, etc., was not attempted, even if it was contemplated. This great, and as we have shown, all important work, was undertaken by the Sanitary Commission, for whose good offices the country cannot be too grateful, It is to this body that we are indebted for those reforms in the medical department which have placed at its head, and will hereafter secure in that position, an officer in whose only claim is—QUALIFICATIONS.

And it is to the same body that we are indebted for the creation of the department of sanitary inspection, the importance of which to the strength and effectiveness of the army we have already demonstrated.

In the organization of this department, great pains were taken to render it free from all political influences, to place in the responsible positions thoroughly qualified men, and in general, to give it the highest possible character and efficiency. It provides a Medical Inspector-General, with the rank of a Colonel of Cavalry, and eight Medical Inspectors, each with the rank of a Lieutenant-Colonel of Cavalry. It directs "the Medical Inspector-General shall have, under the direction of the surgeon-general, the supervision of all that relates to the sanitary condition of the army, whether in transports, quarters, or camps, and of the hygiene, police, discipline, and efficiency of field and general hospitals, under such regulations as may hereafter be established." The eight Medical Inspectors are "charged with the duty of inspecting the sanitary condition of transports, quarters, and camps, of field and general hospitals, and shall report to the Medical Inspector-General, under such regulations as may be hereafter established, all circumstances relating to the sanitary condition and wants of troops and hospitals, and to the skill, efficiency, and good conduct of the officers and attendants connected with the medical department."

It will be seen that the scope of duties assigned to the Sanitary Inspectors is equally as great, under proper regulations, as that of the English, and that they have equal power to enforce their recommendations. We have alluded to the beneficent results which followed the thorough sanitary inspection of the British army, preserving it from an unusual mortality under the most unfavorable circumstances, and we cannot avoid the conclusion that equal, if not better fruits, would follow the enforcement of the same system in our armies.

The friends of the measure have waited with great patience, and watched with much solicitude the organization of this branch of the medical service, and it is not to be denied that they have finally been doomed to disappointment. Carefully as the Act was worded to provide against the baneful influence of political partisanship, or favoritism, in the appointment of the corps of inspectors, not only was the spirit, but even the letter of the law violated, to accomplish such unworthy purposes. In the first place, the Act expresslly directs that the "Medical Inspector-General, and Medical Inspectors, shall *immediately* after the passage of this Act be appointed by the President." The Secretary of War, upon whom the responsibility rested of securing the prompt appointment of qualified men, in consultation with the Sanitary Commission promised immediate action, and yet the appointments were not made in two months after the passage of the Act. During this time there was the utmost need of the services of the sanitary inspectors in every branch of the army. In the second place, the Act provides that these appointments shall be made "by selection from the medical corps of the army, or from surgeons in the volunteer service, without regard to their rank when so selected, but with *sole regard to qualifications.*" In apparent anxiety to secure the best qualified men in the service for these positions, the Secretary requested and received from the Sanitary Commission, a list of names of the most competent medical officers in the regular and volunteer army, from which to select candidates. It will scarcely be deemed credible by those unfamiliar with the all-controlling power of political partisanship at the Capitol, that but very few of the names on that list were selected, while for the majority of the offices different Senators were invited to nominate candidates. Thus the majority of the Medical Inspectors were selected in utter and most shameful violation of the statute. But there was still hope that the Medical Inspector-General, upon whom devolved the most important duties of the department, would be selected with "sole regard to qualifications." The appointment was long delayed, though it should have been immediate, and there was a prevailing opinion in the profession that the selection would fall upon one of the most eminent and experienced members in the army. But what was the disappointment when a name was announced not familiar in medical circles!

Thus has been jeoparded the most important reform which this war has effected in any department of Government; a measure that was destined to save our army from that hopeless disintegration which preventable sickness causes, and give it physical effectiveness on the field.

We make these remarks in no spirit of unfriendliness towards those gentlemen who now compose the Corps of Sanitary Inspectors. For all, we entertain the highest respect, and for several a warm personal friendship. But we may assure them that much is expected from their labors, and we trust that the future history of the Department of Medical Inspection will abundantly prove that, notwithstanding the improper and censurable method of selection, each individual was thoroughly qualified for his duties. Our only purpose is to protest against allowing such important nominations to be weighed only in the political scales. Had the law been sacredly regarded we should long since have had that thorough sanitary inspection of every branch of the army which would have saved it from decimation during the summer months.—*American Med. Times.*

On the Treatment of Pleurisy. By Professor TROUSSEAU.

M. Trousseau rarely employs blood-letting in the treatment of pleurisy; he scarcely ever cups, even at the commencement of the disease. As an antiphlogistic, he prefers calomel in minute doses, administered according to the method of Low, aconite and digitalis. A favorite mode of treatment in these circumstances is the following: calomel, a grain and a half; powdered sugar, a drachm and a half. To be carefully mixed and divided into twenty powders, of which one is to be taken every two hours. Tincture of aconite and tincture of digitalis, of each 15 drops; ordinary julep, 5 ounces. A tablespoonful to be taken every two hours. The pleuritic pain may be relieved by the application of a compress soaked in chloroform, or in a watery solution of opium. The part having been rubbed for five minutes, with the latter preparation, a moist rag is to be placed over it and covered with a piece of oiled silk.

When pleurisy is complicated with effusion, M. Trousseau has never recourse, in order to favor the absorption of the serous fluid, to blisters, so generally used in this state. Blisters, and especially large blisters, present several disadvantages; they cause great suffering, and are often the cause of ecthyma, abscesses, boils, carbuncles, erysipelas, and other severe accidents. Not long ago, there was in the Hôtel Dieu a patient who had been treated outside on account of pleurisy, and who, as the result of a blister, presented two abscesses of the thoracic parietes, so situated that they appeared to communicate with the interior of the chest, or to be symptomatic of caries of a rib. They had, however, been produced by the application of a blister, and, being dressed in the usual way, soon healed.

M. Trousseau's treatment of effusion varies according to its importance. If the amount is inconsiderable, he confines himself to the administration of digitalis in doses of ten or fifteen drops, of diuretic drinks, quiet, and a light diet. If the effusion is considerable and the pleurisy simple, he evacuates the fluid by means of thoracentesis. M. Trousseau does not allow himself, under these circumstances, to be guided by the degree of oppression. He has actually seen two women, affected with enormous pleuritic effusions, die suddenly, without having experienced the least dyspnœa. One of these patients was a nurse, at the twelfth day of pleurisy; she died while sleeping, and her countenance expressed the most perfect calm. M. Trousseau is inclined to share the opinion of Aran, who recommended that the operation should be practiced as soon as the effusion had reached the fourth rib; in fact, in these circumstances he has never seen a bad result follow. However, he seldom operates until the fluid has reached the level of the clavicle.

The operation is very simple; the puncture is made in the fourth or fifth intercostal space. If there is no other means at hand to prevent the introduction of air into the pleura, the wide end of the canula is plunged into the fluid which is flowing out, and this latter is itself an obstacle to the entrance of air. Thus practised, thoracentesis has always excellent results when the effusion is on the left side—that is to say, when the pleurisy is simply; for Aran found, by clinical observations, that ninety-five times in a hundred pleurisy of the right side is secondary, being connected with tubercular disease of the lungs, while pleurisy of the left side is generally primary.

In the case of tubercular pleurisy with effusion, thoracentesis may be resorted to as a palliative, although necessarily with little chance of success. Topical applications are, however often useful, particularly the repeated application of iodurated preparations, and especially of the alcoholic tincture of iodine.—*Edinburgh Med. Journal*, from *Journal de Médecine et de Chirurgie pratiques.*

TREATMENT OF DYSENTERY.—In the *American Medical Journal of Medical Sciences*, Dr. J. F. Hammond, Surgeon U. S. A., gives a brief account of dysentery, as it occurred at Fort Jefferson, Tortugas, Florida. We have only space to refer to his treatment:

"The patient is first well washed in a sea bath. Then he takes an emetic of ipecacuanha. When the vomiting has ceased, he is given a scruple of calomel, and, eight hours after the latter, half an ounce of castor oil is administered. Should he, in the mean time, desire to eat, he is allowed boiled arrow-root, and if thirsty, he drinks a mucilage. At the end of the first twenty-four hours he is very much improved. The treatment the second day is commenced with a general cold bath. Hope's mixture is then given, or mist. camphoræ, f℥ ivss; liq. ammo. acet. f℥ iij; spts. æther. nit. fʒ iij; potass. nit. ℈ ij; syrupi limonis, fʒ ij. Fiat mist. cujus capiat cochlearia, ij; larga, quarta quaque hora, which is continued until the stools are feculent, or are changed from mucous to serous. This requires from twenty-four to forty-eight hours. Then ℞. Cretæ præp. ℥ j; saponis, pulv. rhei, āā ʒj; hydrarg. cum creta, ℈ ij; olei anis. gtt. v; sacch. alb. ℥ss; tere bene simul. capiat ʒss an ʒj ter die. The general cold bath daily and the arrow-root and mucilage are continued throughout the active treatment of the disease, and care is taken that the patient is not exposed to a current of air. If there is tenesmus after the first twenty-four hours from the commencement of the treatment, an enema of tinc. opii. gtt. xxv, mucilage, f℥ j is given, and repeated every hour, until it is relieved. Should there be tenderness on pressure in any part of the abdomen, cups, scarifying, are applied on the part, and repeated, if necessary; if the case is prolonged with tenderness, the abdomen is covered with dry cups daily, or by a mustard cataplasm of ground mustard and water, applied next to the skin for forty-five minutes, once or twice daily. If the case is obstinate, and there is much tenesmus, an enema of four grains of nitrate of silver, in two ounces of mucilage, increased to four grains to the ounce, is given daily."—*From Dr. Gibb's Weekly Summary, in Med. and Surg. Reporter.*

Trousseau's Treatment of Constipation.

[The *Boston Med. and Surg. Journal* makes the following extract from a letter in the London *Medical Times and Gazette*, giving Prof. Trousseau's method of treating constipation:]

The patient should endeavor to void the bowels daily at exactly the same hour, when he should, for a considerable time, make strong efforts to obtain the desired result; and if these should be unsuccessful, he should desist until the following day. If, on the second day, in spite of fresh efforts, no evacuation should be made, he should immediately take an enema, first with cool, and afterwards with cold water. On the following day the same efforts must be renewed, and if they should still prove ineffectual, the patient must again wait till the next day, when another enema is to be taken if no evacuation takes place. The repetition of such endeavors always made at the same time of day has generally the effect of not only causing desire to relieve the bowels, but actual relief in the natural way.

Another remedy is the suppositorium, which, especially for males, is easier to apply than the enema. Suppositoria of butyrum cacao are, in the majority of cases, sufficient; those made of soap have a still more energetic and certain action, but the best are those made of honey, hardened by boiling. These ought to be of the size of a small pigeon's egg; if they are slightly moistened they may be introduced into the rectum with great ease, and rarely fail to produce a rapid evacuation; but they, as well as the enemata, ought only to be employed if, after two consecutive days, vigorous efforts have not had the desired effect.

The most favorable time for operating in this manner is the morning. It is then least troublesome, and every one can, immediately after getting up, devote a longer time to such experiments than later in the day. Nevertheless, it is a fact that the desire to empty the bowels is more strongly felt just after a meal; either because the accumulation of food tends mechanically to expel the superfluous residue, or because—and this is the more likely reason—the new digestive action causes preparatory muscular contractions in the whole intestinal canal. The local adjuvants ought, however, in this case, not to be employed.

Concerning the diet, the most certain means of overcoming constipation is to partake more largely of vegetable than animal food. Raw fruit and herbs are chiefly useful.

To cause diarrhœa is not to cure constipation, but to substitute one disease for another, and vegetable diet is only useful if well supported. Certain aliments taken from the animal kingdom, such as milk, have, upon a large number of persons, a slight laxative effect; milk may, therefore, always be employed, if it agrees with the stomach. Coffee with milk is, for many persons, a powerful remedy for constipation, and the same is the case with tea. Amongst beverages, beer and cider are the most suitable for costive people. Many want to go to stool at once after taking a large tumblerful of cold water before breakfast. Bran bread, made of three-quarters of flour and one-quarter of coarse bran, also greatly facilitates the action of the bowels. Many persons only find relief if they smoke a pipe or cigar immediately after a meal; and although it is not very ladylike to smoke, M. Trousseau nevertheless frequently advises ladies to try little cigarettes, if no other hygienic measures are able to overcome constipation.

Belladonna is a great favorite of M. Trousseau's in this affection. He prescribes one centigramme (about one-sixth of a grain) of extract, and as much of powdered belladonna, to be taken in the morning. After five or six days, two pills are taken, and four or five are the largest dose; but, whatever may be their number, the pills ought always to be taken at one time. If the evacuations have become regular, this medication must be discontinued, in order to give the bowels the opportunity of acting without help.

If belladonna should not have any effect, a teaspoonful of castor oil should be prescribed at the same time, and in order to render this more palatable, it may be taken in gelatinous capsules. The intestine being prepared by the belladonna, the oil has a rapid action. The dose may be repeated once or twice a week, if necessary.

There are, however, cases in which all the remedies just named prove ineffectual, when it becomes necessary to employ purgatives. These are extreme remedies, useful and even indispensable, but which must be used with much prudence and care. Generally speaking, the saline purgatives ought to be avoided; these have a rapid, nay, almost instantaneous, but only temporary action; for after their use, the intestinal secretion, for a moment over-excited, is, as it were, dried up; just as certain rapid salines act upon the mucous membrane of the mouth, where they at first produce an abundant secretion of saliva, but leave behind dryness of the mouth and thirst, which are in proportion to the primary effects caused.

It is better to have recourse to drastic purgatives, especially aloes, extract of colocynth, gummis gutti, and extract of rhubarb; these are the pills (says M. Trousseau) so extensively used by the English. M. Trousseau gives the following prescription: ℞ Aloes, ext. colocynth, ext. rhei, gi. gutti, āā 1 gramme (15 grains); ext. hyoscyamus, 25 centigrammes (about 4 grains); ol. æth. anis, gtt. ij. M. ft. pilulæ xx. One, two or even three pills should be taken every second or third day, all at once, whatever may be the quantity taken. They ought to produce an easy, natural, semi-diarrhœic evacuation,. Hyoscyamus prevents colics, and acts, moreover, in the same manner as belladonna.—*Jour. Materia Med.*

Reports on some recent Improvements in Materia Medica and Therapeutics. By EDWARD H. JANES, M.D., of New York.

EFFECTS OF THE PREPARATIONS OF IRON.

Dr. D. S. Gans, of Cincinnati, has translated from *Virchow's Archives,* and published in the *Lancet and Observer,* some observations on the effect of the preparations of iron on the tissue-change, made by Dr. Pakrowsky, of St. Petersburgh, who, after measuring daily in all the patients the temperature of the body, the quantity of the consumed food, the quantity of the excrements, the specific gravity, quantity of chlorides and urea in the urine, etc., concludes that "the temperature of the body is positively heightened by the use of these preparations. This increase results in some cases very soon; in one case it occurred after five hours, in others slower, and in one case after a long interval and after a large dose. The temperature, the morbidly lowered as well as the normal one, is increased, and if it ceases to rise after reaching a certain height, having taken a certain quantity of iron, the temperature will rise more by increase of the dose. Several days after using it, the pulse rises also, although not in all cases. Very soon, and consequent upon the increase of the temperature, the daily amount of urea in the urine increases. The use of iron increases the weight of the body. Every preparation of iron produces the same effect, and a change in the different preparations in the same patient does not alter the result. The diuretic effect of citrate of iron was very distinct in two cases, but was wanting in three under the same conditions. In all cases where iron was used, no constipation of the bowels took place, except a slight one after iodide and lactate of iron. It was borne well, and in large doses, by the digestive apparatus (nine grains pyrophosphate of iron, and fifteen grains ferrum hydr. reductum). Dropsical transudations in the subcutaneous cellular tissue were resorbed by the use of iron, even in patients with insufficiency of the mitral valve, and reappeared after stopping with the remedy. The increase of the heart's impulse, and the dyspnœa in patients with organic cardiac disease, disappeared even in cases in which digitalis had done nothing. After the normal temperature of the body had been raised by the use of iron, it lasted a considerable time after stopping with its use before returning to its normal condition; whilst the morbidly lowered temperature rose quickly by the use of iron, it fell just as quickly by stopping with its use—at least, where the other pathological symptoms continued, and where, consequently, the cause of the low temperature was not cured." From the above conclusions, the author feels justified in ascribing to iron a nutritive power. The increase of temperature indicating a stronger tissue-change is not in consequence of increase in the quantity of the blood or of the blood corpuscles, both of which are slow operations. The same may be said of the increase of pulse which follows rather than precedes the elevated temperature. Rejecting also the respiration as unaltered by the iron, and hence having no influence on the temperature, Dr. Pakrowsky directs us "to look for the effect of iron in the finest arterial and capillary system, one of the important places of nutrition, and the growth of the tissue and organs, and so much more, as the disappearance of dropsical transudations in the subcutaneous cellular tissue after the use of iron points to that system. The most probable is the supposition that the iron acts upon the contractile elements of the finest arterial branches, which must have, without doubt, a high and important influence upon the capillary circulation, and, namely, upon the degree of the tonics, *i.e.* the degree of tension of the walls of these ramifications. The iron must consequently alter the conditions of the diffusion of the elements composing the tissue and organs. Only in this way does it seem possible to explain the quick effect of iron upon the nutrition, and the resorption and the œdamatous transudations."

MEDICINAL TINCTURES WITHOUT ALCOHOL.

Sir James Murray has submitted to the Surgical Society of Ireland, a process for extracting the medicinal virtues of various vegetable substances, by using for a menstruum a solution of magnesia and camphor in distilled water, holding carbonic acid in solution, instead of alcohol, the latter, on account of its exciting nature, being often objectionable and sometimes altogether inadmissible, especially in some diseases of children. Experiments had already been made and the results published, sufficient to attract his attention to this subject, especially those made by Dr. Thomas Skeete, in 1786, in which it was found that fine powder of pale bark, acted on by magnesia, produced a solution which, when filtered, was of a deep brown color, more bitter and astringent than even an infusion of red bark, producing a precipitate with sulphate of iron more intensely black and copious than the common infusion of bark, and possessing also superior medical virtues. Bergman and Brande found that magnesia exercised a solvent power over the most decided resinous bodies. Camphor, being an antiseptic, and rendered soluble by bi-carbonated magnesia, a solution of the two, aided by the preservative properties of carbonic acid, forms a permanent solution, which is now submitted to the profession as a general solvent of medicinal substances. The liquid itself is used with advantage in the place of camphor julep, on account of the greater quantity of camphor it contains. Aloes, buchu, calumba, cardamoms, cinchona, gentian, galls, hops, rhubarb, sarsaparilla, valerian, ginger, are among the plants suited for digestion in the aërated fluid camphor. Any one of these, in proportions of ten ounces of the dried substance, in coarse powder, may be macerated in two quarts of the solvent for some days, agitating them occasionally. It was never the intention of the inventor of these improvements either to supersede the use of proof spirit where admissible, or monopolize their preparation. The intention is to exclude alcohol only from such tinctures as cannot convey enough of the active principles of bulky drugs without dram-drinking dangers. It is claimed that when these drugs are macerated in fluid camphor and magnesia, the carbonic acid, in excess, exalts the power of the remedies and aids their preservation. The Dublin *Medical Press*, April 16, contains a more lengthy account of these preparations.

CANTHARIDES AS A THERAPEUTICAL AGENT.

The internal administration of cantharides in large doses, with the mode of its operation, forms the subject of a paper published in the Cincinnati *Lancet and Observer*, from the pen of Dr. Alex. McBride, Surgeon O. V., U. S. A., who strongly advocates it as "an agent the most powerful to rekindle the waning spark of vitality—an agent which in many cases of disease at an almost helpless stage, will rally the scattered and almost dissipated vital forces, concentrate and generalize their action, and re-establish that series of atomic changes upon which vital action depends." He was led to the investigation of the subject in the year 1854, when typhoid and continued fever prevailed to a considerable extent in northern Ohio, and he frequently saw patients in whom congestion of the lungs had supervened at an advanced stage of the fever. These were treated with the application of emplast. canthar., and in many cases with marked success, and the observation made that in those cases that were at all remediable, the abatement of bad symptoms began within thirty minutes after the application of the plasters, especially when applied over a large surface. An effect so prompt could not be due to vesication, but was supposed to depend either upon the plaster acting as a poultice to the warm part, or the absorption of cantharides. The latter theory seemed more rational to the writer, and he resolved to try the result of cantharides when administered internally, and now reports a number of cases illustrating its happy effects. The first case reported is that of a feeble woman, aged fifty, who had long suffered from an obscure remittent fever, and every few days reduced still lower by a "sinking" chill. During one of these chills sixty minims of tinct. cantharides were administered at once, from which she soon rallied, and from that time her recovery was uninterrupted. Other cases are reported, comprising one of extreme nervous depression, partial palsy, typhoid pneumonia, animal poisoning, gangrenous erysipelas, low stages of typhoid fever, cholera, etc., in all of which rapid improvement is said to have followed the first administration of the remedy. The dose was usually from ʒ ss. to ʒ iss. of the officinal tincture, sometimes alone, sometimes in combination with ammonia, or camphor, or quinine, or iron, as each was indicated, or alternating with the iodide of potassium. In none of the cases did strangury occur, and he says it will not where the peculiar action of the remedy is plainly and clearly indicated, which means that stage of the disease which authors have pointed out as the "blistering stage." He does not disparage blistering, but in urgent cases has applied them in connection with the internal use of the tincture; but in extreme cases we cannot wait for the absorption of canthardin through the skin, "when vitality and blood have almost forsaken the surface," the internal administration of large doses becomes necessary to insure a speedy action. As a general indication for its use he gives the following: "*When in atomic, asthenic, or adynamic disease it is a desideratum, from whatever cause, to produce general or local capillary tonicity, the internal use of cantharides will be indicated, and in quantity proportional to the urgency of the demand.*" And again: "When turpentine is indicated to produce general action, cantharides is still more indicated, if the indication is urgent; but they should not both be given." When it is determined to use the cantharides internally, a full dose (one drachm, or perhaps more) should be given at once, after which smaller doses will generally suffice. Its repetition should not be trusted to incompetent hands, but the prescriber himself should as far as possible administer it, remembering that like all potent drugs it is as capable of doing mischief as good, and should only be given to a sufficient extent to accomplish the object desired: for if it acts by re-establishing the series of atomic changes upon which vital action depends, a too free exhibition may urge these changes beyond the point of endurance, the tendency of which would be to destroy. The writer believes cantharides to act primarily upon the capillaries, by inducing tonicity, diminishing their calibre, whereby congestion is relieved and absorption promoted; and that its action upon the general constituents of the organism throws a large amount of nitrogenized effete matter into the circulation, which the kidneys elaborate into urine, which increases the quantity of dense urine; and he has noticed the fact that so long as the urine is dense there is no strangury, but when it grows pale the quantity grows less, and if the medicine is continued strangury will follow. Hence we have the following rule:—" *Cantharides may be given in free dose (in cases where indicated) as long as the urine continues of a darker color than pale amber.*" After some observations on the local and general effects of cantharides as usually administered, he thus concludes:—" Now, in conclusion, I wish to say that I have written the foregoing facts because they are true, and ought to be known to the profession; and for the few conjectures submitted, I ask your indulgence till they are further considered."

The same journal contains a report by Dr. G. R. Patton, on

THE USE OF THE SEEDS OF THE PUMPKIN IN TÆNIA.

A number of cases are reported, all of which had repeatedly undergone the usual routine of treatment. An emulsion was made with two quarts of the hulled seeds and two quarts of water, and a large tumblerful given three times a day, preceded by a light diet and free evacuation of the bowels. The effect was in all the cases to bring away large pieces of the worm, in some of which the head was found. He thinks the pumpkin seed claims our first attention as an exterminator of tænia, the frequent failure being due to discontinuing the remedy too soon. The treatment should be maintained from four to six days, unless the head be discovered, the patient being confined to a light diet. No purgative should be used during its use, as the emulsion itself is sufficiently laxative, if a light diet be enforced.—*American Med. Times.*

Report of the Wounded at the Battle of Newbern, N. C. By J. H. Thompson, M.D., *late Brigade Surgeon, U. S. A.*

But few battles on record, of which any surgical statistics have been kept, the numbers engaged being equal, present so many highly interesting cases, as the battle of Newbern, N. C. There is hardly any form of gunshot wound incident to modern warefare but could be seen here, and an abundant opportunity was afforded to all surgeons present, not only to see, but to perform all the capital surgical operations which, at the present day, are considered justifiable. I regret exceedingly that I have but a few notes of the many cases which came under my observation, which are interesting not only on account of the character of the injuries received, but for the universal success attending their treatment.

On the field of battle the surgeon has to contend with many disadvantages; he is often compelled to operate in positions where he is exposed to imminent personal danger, and the operations have most frequently to be performed upon the ground, the surgeon having to stoop to his patient. He has often to take as assistants men who have never before seen an operation, for when the engagement is active there is frequently too much to be done for one surgeon to be able to assist another: before he has finished one operation, there are probably twenty others, urgently requiring his attention, and all of which will suffer by delay. All this is calculated to excite the operator, and materially interferes with that coolness so essential to the formation of a correct judgment, and upon which the welfare of the patient materially depends. After passing from under the hands of the surgeon there is no comfortable bed to remove the patient to, nor well trained assistants to nurse and administer to his wants; but he is compelled to lie upon the ground, often wet, and, unless he has been provident enough to save his blanket, without anything to cover him, probably no nourishment for many hours, and then of a kind but little suited for him. In a few days, it may be, he is removed to a stationary hospital: he has to be carried some distance on a litter, and the remainder of the journey performed on a steamboat, or in one of those infernal machines called a two-wheeled ambulance, which must have been expressly designed as an instrument of torture. It might naturally be expected that with these manifold disadvantages, the per centage of mortality would be very large; but, I think I may state without fear of contradiction, that the same number of cases, most carefully selected from the best hospital or private practice, will not compare unfavorably with those taken from field practice. One reason for this, I believe, may be found in the fact, that our patients in field practice are, as a rule, healthy men; whereas in private practice if our patients, when they first meet with the accident, are strong and healthy, we are too apt in our endeavors to save a limb to defer the operation, until they have become considerably exhausted either by long continued pain or extensive suppuration.

The following are a few of those cases which came under the charge of Drs. Derby and Otis of the Massachusetts Volunteers, and myself, at the battle of Newbern. The general rule adopted, and which will apply without any exception to all the following cases, was, when the patient was first brought in he was given from one to two ounces of whisky. If an operation was decided upon, no reaction was waited for, but he was at once placed under the influence of chloroform, which was administered by placing a single thickness of patent lint about three inches square over the nose and mouth, and dropping the chloroform on the lint, rarely more than one drachm being required for any one patient; no instance came under my notice of any ill effects resulting from the use of this admirable but much abused anæsthetic. Those of the profession who are opposed to the use of chloroform, ground their opposition upon the fact, that a few patients have died whilst under its influence; but we have no proof that the same patients would not have died had ether been employed instead of chloroform. Of 9000 cases reported from St. Bartholomew's Hospital, London, in which were included old and young, healthy and infirm, not one instance of death was recorded.

In the first brigade to which I was attached, Drs. Otis, Derby, and myself, attended to over two hundred serious cases, amongst which were the following:

Captain Sawyer, 22d Mass. Vols., left leg shattered to knee by cannon-ball, joint involved in the injury, as is usual in all cases of wound by cannon-ball or shell; there was great prostration. According to the generally received opinion an immediate operation was not justifiable, but reaction should be waited for. If we were living in an age when anæsthetics were unknown, this rule would have been acted upon, as the system was already too much depressed to have stood the shock of any further pain. But happily we are possessed of an agent by which we can control not only the pain of the operation, but the sufferings attending the primary injury. Under its influence the nervous system enjoys perfect repose for a considerable time, sufficient in most cases to enable it to recover from the shock, and to prevent the subsequent irritability which always accompanies reaction in those cases where stimulants only have been employed. When our patient gradually comes from under the influence of chloroform, he awakes to the knowledge that in the main his sufferings have passed, and that for the future he has everything to hope and but little to dread. This adds materially to the probability of a successful result, for we all know how controlling is the influence of the mind over the body. In this case, we had almost entire union by first intention, and a rapid recovery without the first bad symptom.

It may become a matter of interest at some future time to inquire, whether these immediate operations in any way protect our patients from the liability to a subsequent attack of tetanus. Although after the battle of Newbern the wounded were exposed for some days to most of the exciting causes of tetanus, not one case that I am aware of occurred in any instance where an operation had been performed. There were but two cases amongst the wounded, and they are reported at the end of the list.

Joe Beman, left arm torn by cannot shot, and severe contusion over umbilical region, about four inches square; prostration considerable, but not so extreme as in the preceding case. Immediate amputation of arm (circular); no bad symptoms followed.

Private Samuel Johnson, left tibia and fibula fractured close to knee, joint involved. Amputation at the knee-joint would have been the operation selected in this case, but, unfortunately, the portion of tissue necessary to form the posterior flap was so much lacerated, that the danger of its sloughing would have been imminent. Amputation was performed at juncture of middle and lower third of femur (circular); recovery perfect.

Private D. H. Cameron, minie ball through condyles of right femur; total destruction of joint, and splintering of femur about four inches up the shaft. Immediate amputation of thigh at middle third (circular); nothing occurred to retard recovery, which was complete.

Private John S. Mayo, ball through elbow-joint, left arm. Amputation four inches above joint (circular); result successful.

Private W. H. Slack, left arm carried away close to shoulder by solid shot. Amputation at shoulder-joint, but there was such extensive laceration and contusion of soft parts as to render a successful result very doubtful.

The above cases were all operated upon by Dr. Geo. Derby, and in his official report to me, twelve days after, he states all had done, and were doing well, with the exception of Slack, in whose case everything progressed well until the tenth day, when symptoms of pyæmia appeared, and he rapidly sank.

The following were operated upon by Dr. Otis, 27th Mass.:

J. E. Cushman, 27th Mass. Reg., left humerus shattered by grape shot within a few inches of the joint. It was impossible to apply a tourniquet, therefore the artery was controlled by pressure, and amputation made at the surgical neck of the humerus. The patient did well, stump cicatrising kindly; recovery perfect.

L. B. Hadley, right arm shattered by grape shot. Amputation at the middle of the shaft of the humerus; good result.

Lieut. G. Warner, right leg shattered by cannot shot. Amputation at the junction of the middle and lower third of the femur (circular); line of union antero-posterior; ligature came away on the tenth day. The patient has done well, his recovery being uninterrupted by any complication.

Private George A. Brown, right arm carried away by solid shot or unexploded shell. It was at first proposed to disarticulate the humerus, but Dr. Otis thought he could get a better result by sawing the bone at or a little above the surgical neck, at which point the operation was performed; subclavian compressed (operation circular); the incision healed almost entirely by first intention.

Private McGrath, right leg shattered by grape shot. There had been excessive hæmorrhage before the man was brought from the field, and his case was very unpromising. The leg was immediately amputated. For the first fortnight the constitutional symptoms were very alarming. The stump looked badly, but after that time he began to mend, and on the thirtieth day was out of danger.

Private ———, 4th R. I., wrist of right hand disorganized by canister shot. The arm was amputated by double flap. On the second day hæmorrhage occurred from the radial artery, which could not be controlled by ordinary means; the flap had to be opened, and the artery tied higher up. As usual there was too much retraction to admit of a satisfactory re-adjustment of the wound. It, however, granulated nicely, and, although the man's recovery was slow, it was not the less perfect.

Private L'Amée, compound fracture of humerus, with splintering of the bone high up. It was a question whether any operation short of disarticulation was advisable, but it was finally decided to saw the bone at the surgical neck; the soft parts could only be trimmed, there being barely sufficient to form a flap. Secondary hæmorrhage occurred the day after the operation. The artery was secured as high up as it could be got at. On the third day hæmorrhage returned. The axillary artery was apparently disorganized by inflammatory action. Nothing remained but to tie the subclavian artery, which was very skillfully done by Dr. Derby. For some time the patient remained in a very critical condition, but with his subsequent history I am unacquainted.

I have thus given a short history of twelve cases, not including L'Amée, in all of which capital operations were performed under the influence of chloroform. In no instance was reaction waited for, and all were perfectly successful, although our patients for several days subsequent were exposed to wet and cold, and were imperfectly nourished.

There were but two cases of tetanus among the wounded at Newbern, both of whom died, but in neither instance had there been any operation performed; the following is their history:

Private Patrick Sweeny, minié ball through the head of the humerus, fracturing the glenoid cavity, and lodging in the left shoulder. After receiving the injury he walked some two miles to the rear, stopping in a shanty all night; next morning he walked up to the hospital. There was great constitutional irritation, and the time had evidently passed for a primary operation; it was hoped that the system might recover sufficiently to render exsection of the head of the bone an advisable operation, but, unfortunately, on April 1st, sixteen days after receipt of the wound, symptoms of tetanus were manifested, and on April 3d he succumbed to that dsease.

Private Gosman, 11th Conn. Vols. A flap of skin and subcutaneous tissue, eight inches square, were torn from the chest and epigastrium; the wound was perfectly regular in outline, and the muscles were dissected as cleanly as by a scalpel. On the eighth day he complained of stiffness in the neck, and by the morning of the tenth day he presented a classical case of tetanus, and died on the evening of the same day. It is hardly necessary for me to add, that every remedy which science has suggested was tried, in the hope of arresting the progress of this frightful disease, but, as is usual, all proved alike ineffectual.

Private Frederick Soulé. A one and a quarter inch canister shot struck near the right horn of the hyoid bone, passing obliquely across the neck, and lodging in the subscapular fossa, where it could be felt under the skin; it was removed by a free incision.

The man did perfectly well for four days; there was little irritative fever and no dyspnœa. Suddenly, on the night of the fourth day, he was seized with a suffocating paroxysm, and died in half an hour. I presume he died from an acute attack of œdema of the glottis. I very much regret that we had no time to make a post-mortem examination.

Private Geo. W. Ramsay, wounded in the head by a musket ball. When the man was brought in, which was in the early part of the action, he was insensible, surface cold, breathing stertorous, pulse slow, about 40. Upon examination, I found the ball had entered about one inch posterior to the fronto-parietal suture, and about two and a half inches above the ear, on the left side, and had passed in an oblique direction from before backwards. Stimulants were freely given, the loose portions of bone removed, and the patient left, as I supposed, to die. My attention being directed during the day to patients requiring immediate aid, I did not see this man again until evening, some eight hours after he had received the injury; there was then but little change, he was unconscious, and there was that peculiar whiffing by the mouth during expiration, which frequently accompanies grave cases of compression, the eyes were fixed and pupils very much dilated. During the night there was continued convulsive action of the left arm and leg, the right side appeared paralysed; the left eye was suffused and considerably protruded. I removed a clot of blood which partially filled the wound, and laid him over upon his left side to give an opportunity for the blood to drain from the wound, and thus prevent any increased compression from accumulated fluids; the bladder was emptied by catheter, and a strong cathartic administered.

In the afternoon of the second day, there was a considerable improvement; he appeared to understand what was said to him, giving signs with his left hand; the pupils were not so much dilated. From the time he was turned over upon his side the paralysis gradually diminished, and the patient seemed to improve each hour; speech slowly returned, but was not perfect. Notwithstanding this marked improvement, I considered his case hopeless, for I knew the ball to be within the cranium, and the patient thus subjected, not only to the danger arising from the compression, but to the almost certain one, inflammation, and probable subsequent softening, which the presence of such a foreign body would produce.

Imagine my astonishment, on leaving my tent on the morning of the fourth day after the battle, to see the man sitting on a log before the fire smoking his pipe. I almost believed myself laboring under an optical delusion; had he risen from the dead I could not have been more surprised. His answers to questions were given with some hesitation, but were correct and rational. From this time onward all his functions were performed normally, and at the end of three weeks he went home on furlough. I saw him on the day he left; there was still a weakness, hardly amounting to paralysis, of the right side, considerable deafness, and the left eye much protruded and congested, otherwise he presented no indication of having so recently been the victim of such a severe injury.

In this case I made no exploration by probe to discover the whereabouts of the ball, as I was satisfied from the force with which it must have entered, that it was deeply imbedded in the cerebral mass, and any interference of this nature would only light up an uncontrollable inflammation, destroying any possible chance there might be for the recovery of my patient.

Examples are by no means wanting of patients recovering from serious injuries to the brain,* but I know of no case on record (where the patient has recovered) in which the symptoms have been so alarming and the exciting cause yet remaining.

I am entirely at a loss to account for the sudden improvement in the condition of this man. It is certain the ball entered the cranium, it is equally certain that by no possible chance could it have passed out; judging by precedent, sufficient time had not elapsed for nature to accommodate herself to this new state of things. We may readily comprehend how a tumor, such as an exostosis, whose growth is slow, may be tolerated for a considerable time before any alarming symptoms are manifested; but here was an extensive laceration of the cerebral tissue, with the presence of an irritating foreign body, yet followed by no serious inflammation or entire loss of any of the functions of the brain.—*American Med. Times.*

A RED COLORING MATTER FROM SORGHUM SACCHARATUM, called Baden red, is prepared, by A. Winter, by fermenting the cut and expressed stems, piled up under a shed to the height of several feet, and avoiding too high a heat by regulating the draught of air. The mass will have turned red or reddish-brown in about two weeks, is now dried, ground and macerated in cold water. The expressed mass is then treated with a weak potassa or soda lye, the liquor neutralized by sulphuric acid, and the red flocculent precipitate collected upon a filter, washed and dried. The coloring matter is readily soluble in alcohol, alkalies and diluted acids, and is printed upon silk and woollen fabrics by means of the ordinary tin mordants; the colors thus produced are not affected either by sunlight or washing with soap. It is stated that the preparation of this dye has been long known and extensively used in China.—(*Allg. Deutcsh. Telegraph.*

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* Larry, Clinique Chirurgicale, Deare, Sharp, Guthrie on Injuries of the Head, O'Shaughnessy, Desault, Brodie, and Abernethy on Injuries of the Brain.

Bibliographical Notices and Reviews.

Commentaries on the Surgery of the War in Portugal, Spain, France, and the Netherlands, from the battle of Rolica to that of Waterloo, in 1815. *With additions relating to those in the Crimea, in* 1854–55. *Showing the improvements made during and since that period in the great Art and Science of Surgery, on all the subjects to which they relate. Revised to Oct.* 1855. By G. J. GUTHRIE, F.R.S. Sixth Edition. Philadelphia: J. B. Lippincott & Co. 1862.

A Manual of Military Surgery; or Hints on the emergencies of Field, Camp, and Hospital Practice. Illustrated with Woodcuts. By S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia. Second Edition. Philadelphia: J. B. Lippincott & Co. 1862.

A few years ago a book on Military Surgery was looked upon as an antiquity, a something for the amateurs to waste time upon. John Hunter's labors on Gunshot wounds were borne in mind, not because of any supposed intrinsic or expected value, but because they created an era in opinions. We are now, however, in the midst of war—not a *foreign* war, but a *civil* war; a war among ourselves. This has created, and that too very suddenly, a demand for books on Military Surgery and Military Medicine. This demand, in part, is being supplied by foreign works such as Guthrie, and which we have now before us; Baudens, noticed in our last number; and by home productions, as Blackman and Tripler, and Gross. Taken altogether, these works open eyes right smartly on things, and get us ready for a new chapter in the history of American Medicine. Two years ago that man was very scarce among us who had seen any thing more than a mere apology for a Military hospital, and that Surgeon was equally rare who had done more than observe the ravages made by a squirrel rifle or an old fusee. Now we have Military hospitals that in number and magnitude, perhaps, exceed any thing the generations of Adam have seen. We must, therefore, try to concentrate some light on the paths of those having charge of these establishments, that the unfortunate sick and diseased may receive all the assistance that present knowledge and present goodness of heart can suggest.

The former of the works before us has been written from a large experience. The author has had his attention turned towards Military Medicine and Surgery for half a century or more. Sometimes as an amateur, at other times as Post-Surgeon, Staff-Surgeon, he has been continually engaged in collecting the material for the work before us. His fields of observation have been very large, embracing Portugal, Spain, France, and the Netherlands, from the battle of Rolica, in 1808, to that of Waterloo, in 1815; also the Crimea, from 1854 to 1855.

The material of which this work is composed first appeared, in part, in the London *Lancet*, in the form of Lectures. In order to give, however, the valuable matter a more permanent form, the author concluded to add some fifteen lectures to those published in the *Lancet*, and issue the whole together.

The appearance of the work in an American dress is very opportune just now. It is filled up with aphorisms on Military Surgery. We have seen nothing in the work, indeed, but what seems to be well matured. For the settlement of some questions the author has been at great pains. We have no space for more than an example or two of his labors in this line. The arteries come in for a large share of attention, and the questions—pathological—relating to them are handled with care:

> "The great principles of Surgery to be observed in cases of wounded arteries, and which ought never to be absent from the mind of the surgeon, are two in number—
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> "1. *That no operation ought to be performed* on a wounded artery unless it bleed.
>
> "2. That no operation is to be done for a wounded artery in the first instance, but at the spot injured, unless such operation not only appears to be, but is impracticable."

As considerable diversity of opinion obtains with reference to the treatment which wounded arteries should receive, and as the author is very explicit on the precept that no operation should be done on a wounded artery unless it bleeds, we insert the following case illustrative of the correctness of the doctrine. The case passed under the author's observation in 1812, and he looks upon it as a model:

"John Wilson, of the 23d Regiment, was wounded at the battle of Salamanca by a musket-ball which entered immediately behind the trochanter major, passed downward, forward, and inward, and came out on the inside of the anterior part of the thigh. The ball could not have injured the femoral artery, although it might readily have divided some branch of the profunda. Several days after the receipt of the injury, I saw this man sitting at night on his bed, which was on the floor, with his leg bent and out of it, another man holding a candle, and a third catching the blood flowing from the wound, and which had filled a large pewter basin. A tourniquet with a thick pad was placed as high as possible on the upper part of the thigh, and the officer on duty was requested to loosen it in the course of an hour; that was done, and the bleeding did not re-commence. The next day the patient being laid on the operating table, I removed the coagula from both openings, and tried to bring on the bleeding by pressure and moving the limb; it would not, however, bleed. As there could be no other guide to the wounded artery, which was evidently a deep-seated one, I did not like to cut down into the thigh without it, and the man was replaced in bed, and a loose precautionary tourniquet applied. At night the wound bled smartly again, and the blood was evidently arterial. It was soon relieved by pressure. The next day I placed him on the operating table again, but the artery would not bleed. This occurred a third time with the same result. The bleedings were now, however, almost immediately suppressed whenever they took place, by the orderly who attended upon him, care having been taken to have a long thick pad always lying over the femoral artery, from and below Poupert's ligament, upon which he made pressure with his thumb for a short time. *Absolute rest* was enjoined. The hemorrhage at last ceased, and the man recovered."

This case was one of great interest. The author states, if the wound had bled he would have introduced his finger into it, enlarged it transversely, by continuing the incision until the opening was sufficiently large to see the bottom of the wound, or bleeding part. The case looked to be a very fair one for ligature of the femoral artery high up. This would have arrested the hemorrhage at once, but in all probability the patient would have died from mortification, the most usual result. The author is fully convinced, from perhaps as much experience as any one living possesses, that the plan of cutting down upon an artery on the first occurrence of hemorrhage, unless so severe, or so well marked as to leave no doubt of its being from the main trunk of the vessel itself; and even then it is not advisable unless the artery continues to bleed, for many a hemorrhage, supposed to have come from the main trunk of an artery, has been permanently stopped by a moderately continued pressure exercised in the course of the vessel, or on the bleeding part itself.

Our readers are perhaps aware of the theories of John Hunter relative to wounded arteries, aneurism, etc. Previously to the time of Mr. Hunter aneurism in the ham was usually fatal. Anel was the first who proposed ligating the artery immediately above the diseased part, and Pott recommended amputation. Hunter proposed to ligate the artery high up on the fore part of the thigh, because he alleged unsoundness of the artery near the aneurismal distention, and attributed to this the want of success in the operation. These doctrines, very applicable to diseased arteries connected with aneurism, were supposed to be applicable also to injuries of arteries. It is here that our author takes issue with formerly received opinions, and certainly has every thing in the way of theory in his favor. He, however, does not depend on theory to disprove Hunter's views. The war in Spain (1811) furnished the cases in point. Our author maintains that an artery at the wounded part is free from previous disease, and in this respect differs from an artery in the vicinity of aneurism, hence ligation may be done with safety in the vicinity of the wound, or near the wounded part of the artery. A second point made by our author is this:

> "The absence of the aneurismal sac renders the application of two ligatures absolutely necessary, one on each end of a divided artery; or one above and the other below the wound if the artery should not be divided."

The bleeding of the lower end of a vessel is often sufficient of itself to cause death. The blood is usually more venous, or rather of a more venous color. The bleeding, too, differs from the usual arterial impulse; it wells out, like the water from a boiling spring.

Here is rather an instructive case:

> "Corporal Carter, of the pioneers of the 29th regiment, was wounded at the battle of Rolica, August, 1809, by a musket ball, which passed through the anterior and upper part of the forearm, fracturing the ulna. Shortly afterwards a profuse hemorrhage took place, and the Staff-surgeon in charge tied the brachial artery. In the night the hemorrhage recurred, and the man nearly bled to death. The arm was then amputated, when the ulnar artery was found in an open sloughing state."

The author has made a contribution to present knowledge in regard to the effects of a ligature on an artery when applied for arresting hemorrhage. To those who have paid much attention to this branch of surgery it is known that Desault and Deschamps knew that the usual effect of a ligature was to sever the middle and inner coats, leaving the outer one entire, the ligature really cutting through or separating completely everything but the outer one. Dr. Jones and Mr. Hodgson completed our literature on the subject by numerous experiments. Now our attention is called by the author to another effect on the artery ligated. Besides the severing of the inner coat by the ligature, it is found that the inner and middle coats, including in reality four distinct layers, assumes a very favorable position in the axis of the vessel—favorable so far as preventing hemorrhage is concerned. "The inner and middle coats are not only divided, but they appear to be curled inwards on themselves, so that the cut edge of one side is not applied to its fellow in the usual way of two surfaces, but by curling, meets its opponent on every point of a circle, and in this way forms a barrier inside of that of the external coat which is tied around it by the ligatures; so that in fact when a small ligature is firmly tied, its direct pressure is not applied to the inner coats, which have been divided and curled away from it, but to the two layers of the outer coat, which are, in consequence of that pressure, made to ulcerate or slough, processes which could scarcely fail to take place also in the other coats if they were subjected to pressure in a similar manner."

Thus is explained in a very satisfactory manner the mode adopted by nature to assist in preventing hemorrhage. Perhaps it is this arrangement of the internal and middle coats that often prevents hemorrhage in large arteries when divided.

The author gives a case in which he placed a ligature on the *common iliac* artery of a female, for a pelvic tumor. The lady died a year afterward, when it was found that the ligature had been applied at the distance of five-eights of an inch from the aorta, and three-eights of an inch from the bifurcation of the internal iliac. The author cites this case to show that a *coagulum* is not necessary for the safety of the union; and that the danger hitherto expected from the neighborhood of a large collateral branch is more imaginary than real.

The work of Prof. Gross (A Manual of Military Surgery) appeared first about a year since. The copy before us is of the *second* edition. Impressed with the importance of something to meet the emergencies of the War, the author went to work with his usual industry, and produced this little volume, which he styles "Hints on the Emergencies of Field, Camp and Hospital Practice." Although the little volume (a duodecimo) only contains 186 pages, the territory of Military Surgery is walked over with due formality, there being a regular *Dedication*, Preface, etc.; and also chapters on the "*History* of Military Surgery," "*Importance* of Military Surgery."

The work aims especially at supplying young physicians with a manual who have with so little notice entered the volunteer service, perhaps not always with a full knowledge of the responsibilities of their position.

The arrangement of the matter is such as to set forth the important and practical, so as to meet the emergencies of the camp or field. Young physicians, therefore, will do very well to give this little volume the attention necessary to complete familiarity with its useful precepts. The only fault we find with it is, that it aims at too much. Even "*Dietetics*," and the "Regulations for the Admission of Physicians into the Medical Staff of the Army," are considered.

The author, while engaged in the composition of the work, has been in luck in having visitations of good moods. In the Preface he *exhorts* the young men who may enter the service to do their duty "as skillful surgeons and physicians, as men of courage, and as Christians, in order that when they return to their homes and friends, after the tumults and perils of war shall be over, they may be able to render a good account of their stewardship, and so entitle themselves to their country's benediction." Young surgeons are also exhorted to "*conservative*" surgery, in the name of "good old George Herbert." Next comes the *denunciatory* a little, as the author discourses on dietetics. "The diet of the sick-room has slain its thousands and tens of thousands," says the author; and he adds: "Broths, *and* slops, *and* jellies, *and* custards, *and* ptisans (nice example of *Polysyndeton*), are usually as disgusting as they are pernicious." The author "*exhorts*" to nitrogenous food, even if the quantity taken be very small. While descanting on the quality of the different articles of diet, he seems to have been suddenly visited also with a philosophical idea, and exclaims: "The life of a man is his food." Well, soliloquized we, is physiology about to come into the possession of a new principle? After we noticed the author's definition of the life of a man, we could think of nothing else than the boy's definition of man's "*chief end*." On being asked by the Sunday-school teacher what was the chief end of man, the boy answered, "The end that's got the head on."

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S., Fellow of the Royal College of Surgeons, and Lecturer on Anatomy at St. George's Medical School. The Drawings by H. V. CARTER, M.D., late Demonstrator of Anatomy at St. George's Hospital. The Dissections jointly by the Author and Dr. Carter. Second American from the Revised and last London Edition. With Three Hundred and Ninety-five Engravings on Wood. Philadelphia: Blanchard and Lea. 1862.

It is unnecessary to do any thing more in the notice of this work than to announce a NEW edition. The criticisms upon it, as a work for the age, must necessarily be limited.

A few errors, grammatical and of other kinds, may be pointed out as having escaped the author's attention, though of such like things the copy before us is remarkably exempt.

We know of no book now before the profession, which is a greater improvement over its predecessors than this. It is intended to furnish the Student and Practitioner with an accurate view of the Anatomy of the Human Body, and more especially the application of this science to practical Surgery. The effort of the author in these respects must be regarded as a success.

It is proverbial that medical men, and even those who practice surgery, are uncommonly deficient in a knowledge of Anatomy. This fact does not find a satisfactory explanation in indifference or indisposition to this branch of science, for no one fails to understand that it occupies the foundation position in a medical education, and that accuracy or confidence never attends the efforts of any one unacquainted with it. But the explanation may be sought for successfully in the manner in which books on the subject have been gotten up. These have abounded in little else than in dry descriptions, very good it is true in most of the books, but totally unconnected with any thing utilitarian. Now the human mind is so constituted that the last thing that it relishes is something it cannot connect with a purpose. As a consequence of this, it neglects anatomical studies, the books on Anatomy, as though medicine or surgery could be practiced without.

Having been engaged in teaching this branch for some years, we have always noticed that the best students of the classes to which we have lectured go to sleep over mere descriptions. But no sooner are they made to see how such knowledge may be turned to practical account, than they brighten up, and become attentive and even ardent.

Dr. Gray, in the work before us, has aimed to induce the student to apply his anatomical knowledge to Surgery, by introducing in small type, under each subdivision of the work, such observations as show the necessity of an accurate knowledge of the part under examination. This plan puts life into the inquiry, and makes it at once prepossessing to the student.

A Practical Guide to the Study of Diseases of the Eye: their Medical and Surgical Treatment. By HENRY W. WILLIAMS, M.D., Fellow of the Massachusetts Medical Society, Hon. Fellow of the Rhode Island Medical Society, Member of the American Medical Association, etc., etc., etc. Boston: Ticknor & Fields. 1862. pp. 316.

This volume is designed by the author, not to take the place of the elaborate treatises on diseases of the eye now before the profession, but to supply a want which his relations with junior practitioners and students have shown him to exist, and to prepare a work which shall afford, in a form as simple and concise as possible, a practical and serviceable knowledge of these diseases, and their treatment, to those whose opportunities for special study have been less extensive than they could have desired.

General remedies, although not often required, are nevertheless at times useful; as, for example, in the loss of vision which sometimes attends excessive lactation, in rheumatic and syphilitic forms of iritis, and in scrofulous affections of the cornea.

The eye should be made a specialty. Very few general practitioners are competent to treat the diseases to which it is liable. The great error is, too much treatment, too much in the way of irritating collyria, and too much dependence in the use of a few articles. Some very bad cases of disease of the conjunctiva, that we have treated, were made so by the application of strong solutions of nitrate of silver. This article, too, although very valuable in certain cases, is too often prescribed. It is considered by some as a specific for all of the diseases of the cornea and conjunctiva. We have not found any more benefit from nitrate of silver, in cases in which its use is regarded as proper, than we have from sulphate of zinc. This, too, is the testimony of the author before us. "Where," he says, "the nitrate of silver, in solutions of different strength, has been used for one eye, and solutions of the sulphate of copper for the other equally diseased eye of the same individual, I have always found recovery slower in the eye to which the nitrate of silver was applied, and have often been compelled to abandon its use, and substitute the treatment under which the other eye had already recovered." The author relies on the crayon of sulphate of copper, and solutions of sulphate of zinc, in cases where nitrate of silver was formerly the remedy; and he thinks it would be a decided gain for ophthalmic therapeutics if the use of nitrate of silver should become far less general.

Solutions of acetate of lead should, in the opinion of the author, be banished from the list of collyria. The reason of this is, that, where ulcerations of the cornea exist, the acetate of lead is liable to be decomposed and deposited in the texture of the cornea, forming an indelible opacity.

Mineral, much more than *vegetable* astringents, the author has found available. The rule for the strength of collyrium, is that it should not cause smarting more than a few minutes.

The author totally objects to the application of ointments inside of the eyelids. They are liable to vary in strength, to become rancid or decomposed, and this fatty substance, at best, forms a vehicle far inferior to water for distributing the medicinal agent over the whole of the affected surface. Under no circumstances do they offer any advantages over aqueous solutions.

Poultices are not regarded with much favor. It is thought, if applied in conjunctivitis, they tend to augment the discharge and to soften the corneal tissue, favoring the formation of ulcers and perforations by the relaxation produced by the constant application of heat and moisture.

Traumatic injuries of the globe are very little benefited by active treatment. Non-interference should be the rule.

We commend this little volume to the junior members of the profession, as likely to put them on the road to usefulness in the treatment of diseases of the eye.

Editorial and Miscellaneous.

Death-Rate in Hospitals.—Prof. C. A. Lee, now on a tour through Europe, has been engaged for some months back in writing home letters on "men and things," for the *American Medical Times*, New York. Many of these letters, notwithstanding the frequency of such productions in the journals of the day, very well pay perusal. The author dips a little deeper into things than has been common, and, to use a military term, his letters *rank* most of what we have read lately from abroad.

Prof. L. furnishes from the social science papers some valuable information on the mortality statistics of the London and Parisian hospitals, and also facts in regard to the manner in which mortality has been diminished by hospital hygiene, all of which are very interesting to us just now, as we are embarking more extensively than has perhaps ever been done in the business of getting up and arranging hospitals.

In the *eleven* principal hospitals of London, with a daily average of three thousand patients, the percentage of mortality ranges from 8.83 to 11.19 *per cent.* In the *nine* largest Parisian hospitals, with a daily average of nearly four thousand, the mortality ranges from 15.70 *per cent.* in the hospital Necker, and 21.64 in the Hótel Dieu, to the maximum 35.27 *per cent.* in La Charité.

In London hospitals amputations give 25.3 *per cent.* of fatal cases; in Paris, 45.6 *per cent.*

In this connection it may be stated that the average rate of mortality in our own civil hospitals is from seven to ten per cent. Not much is yet known of the death-rate in our military hospitals. In a former number of this Journal, the mortality of the army, taken from the Report of the United States Sanitary Commission, was given; it ranged from six to ten per cent. In the Western States the death-rate has been highest.

Nothing that we know of within the domain of sociology has been improved so much as the hospital system. It is only a few years since one-half or more of the inmates of hospitals died, and that too mostly from disease contracted within and due to the hospitals themselves. The attention now given simply to ventilation, drainage, location of privies, cleanliness, and the removal of every thing from the surface in the way of filth, has reduced death-rates more than one-half in hospitals, civil and military, in Europe and America. The statistics of the hospitals on the Bosphorus, by Miss Nightingale, are to the point, and attest fully what we have said.

We have introduced this subject for the purpose of keeping up attention just now to our hospitals, the number of which of late has accumulated so rapidly. The most thorough regulations should be instituted and kept up. Thousands of lives may be saved by such a course, that would otherwise be lost.

STARLING MEDICAL COLLEGE.—It will be seen by the advertisement in this number that the next session of this institution will commence on Thursday, October 23d, and continue until the first of March. The dissecting-rooms will be opened on the first of October, for the study of practical anatomy. The facilities for dissecting are very good, with abundant material, generally more than is needed.

Hospital.—By the appointment of a member of the faculty, Prof. Loving, to the office of Physician of the Ohio Penitentiary, the extensive hospital connected with that institution will be at the service of the college, for clinical instruction. This hospital is a very good one, illustrating very fully practical medicine and surgery.

SURGEONS FOR OHIO REGIMENTS.—Elsewhere will be found a list of surgeons lately appointed for Ohio regiments. It looks large to the uninitiated; but the probability is that another call will soon be made for the new regiments still in process of formation, and to fill up old ones, on account of resignations, sickness, and death.

Necrology.

Died.—In Dayton, Ohio, on the 17th of July, Dr. Job Haines, in the 69th year of his age.

Dr. Haines was one of the early settlers of south-western Ohio, and one of the oldest and most venerable physicians of the State. He had resided in Dayton over forty years, and enjoyed the deepest respect of all who knew him, as a man, as a physician, and as a sincere and devoted Christian.

The Montgomery County Medical Society passed the following preamble and resolutions as a token of respect to his memory :

Whereas, It has pleased the All-wise Deposer of events to remove from our midst by death our venerable associate, Dr. Job Haines, the oldest member of this Society, and for many years its honored President, therefore,

Resolved, That in the death of Dr. Haines the Medical profession has lost one of its truest and most valuable members—a man in whom the loftiest traits of professional character were combined with every virtue that adorn and ennobles humanity.

Resolved, That in paying this tribute of respect to the memory of our departed friend, we record our high appreciation of those sterling qualities of head and heart which made him pre-eminent among his brethren and secured for him a reputation more enduring and far more to be desired than the poet's wreath or the conqueror's laurel. As a man and a citizen he was without reproach in all the relations of life, justly distinguished for his benevolent impulses and the spotless purity of his character, as a physician he was ever kind and sympathetic, diligent in his attention to the sick, and solicitous for their recovery, while he enjoyed the unlimited confidence and respect of all his professional brethren ; as a Christian, his light shone with unwavering and increasing brilliancy—vital religion was the support of his manhood and the solace of his declining years. His long life was a continued exemplification of those principles which he professed, and which had been derived from pious parents and the volume of divine inspiration.

Resolved, That we tender to the bereaved family our heartfelt sympathies in this the hour of their affliction, and that in token of our respect for the deceased, we will attend his funeral in a body.

Resolved, That these resolutions be published in the city papers, and in the medical journals of the State, and that a copy be transmitted to the family of the deceased.

Conservatory in the Central Park of New York.—We perceive that the Central Park Commissioners have contracted with Messrs. Parsons & Co., of Flushing, for the construction of a grand conservatory, the largest in the United States, upon the Park grounds. The building is to be a "Crystal Palace" of iron and glass, 200 feet long, 70 feet wide, and about 50 feet high. Its base will be a parallelogram, and there will be three stories, curving inward like the successive folds of a turban. The conservatory will front Fifth Avenue; its centre being opposite Seventy-fourth Street; and directly in its rear will be a beautiful little pond, with walled sides of a symmetrical shape, which will be built during the coming two years. When the Fifth Avenue is graded to its proper height, it will be on a level with the second story of the proposed conservatory, and the main entrance to the edifice will therefore be on that story. Stairs and balconies will give access to every portion of the building. The contract provides that the grantees must erect the building entirely at their own expense, after the plans already agreed upon; that they must place in it nothing but flowers or rare trees or plants; that they shall be allowed to sell bouquets, etc., to visitors; that the public shall always be admitted free; that good order shall always be maintained inside, at the expense of the grantees; and that the work shall be completed by the 1st of January, 1864. The specifications of the contract are minute, and are believed to cover the objections which might be made to the granting of a monopoly of such a character. The grantees, on their parts, agree to pay a rent which will add considerably to the revenues of the Park. The conservatory will cost about $50,000.—*American Med. Monthly.*

SURGEONS AND ASSISTANT-SURGEONS FOR THE OHIO REGIMENTS.—At the last examination held in Columbus, August 5th and 6th, and 12th and 13th, a very large number of candidates presented themselves, from which the following list were recommended to the Governor for appointments as Surgeon and Assistant-Surgeon in the Ohio regiments:

Surgeons.—Geo. P. Ashman, Hudson, Ohio; Harvey Bradley, Felicity, Clermont county; Lyman Brewer, Toledo, Ohio; Geo. W. Brooks, Ellsworth, Mahoning county; Geo. Cornell, Milan; J. B. Cotton, Marietta; G. H. Carpenter, Athens, Ohio; T. M. Cook, Monroeville; Geo. A. Collamore, Toledo; W. P. Elstun, Columbia; J. T. Edson, Geneva, Ashtabula county; Joseph H. Estep, Canton; R. M. Denig, Columbus; O. E. Davis, Lancaster; Ely Dayton, Cleves, Hamilton county; J. L. Firestone, Medina; O. E. French, Beckett's Store, Pickaway county; C. N. Fowler, Poland, Ohio; H. Z. Gill, Columbus; Thos. W. Gordon, Georgetown; D. D. Griswold, Elyria; A. R. Gilky, Jefferson; D. Henderson, Marysville; H. B. Johnson, Richfield; Geo. Keifer, Troy; W. H. Landis, Millville; Jas. M. Mosgrove, Urbana; Geo. S. Metzger, Columbia Town; John S. McGrew, Cincinnati; T. J. Mullen, New Richmond; A. W. Pinkerton, Pickaway; S. Pixley, Richfield; A. V. Patterson, Gallion; Ebenezer Owen, Springfield; I. W. Smith, Wellington; K. G. Thomas, Alliance; R. H. Tipton, Darbyville, Pickaway county; Jas. T. Woods, Eagle, Hancock county; J. B. Welsh, Eaton.

Assistant-Surgeons.—A. A. Bean, Kingsville; D. H. Brinkerhoff; Jas. Baggs, Crestline; N. Buckingham, Bloomville; A. Buckingham, Miamiville; J. L. Brenton, Alliance; G. Bambach, Ripley; Geo. O. Butler, Cleveland; J. C. Barr, Midway, Clark county; H. A. Bodman, Oxford; E. D. Bowers, Columbus; H. W. Carpenter, Lancaster; G. T. Critchfield, Mt. Vernon; C. M. Chalfant, Brecksville; S. B. Crew, Batavia; B. F. Culver, Barlow, Washington county; C. Coston, Defiance; A. Carmichael, Loveland; F. S. Clayson, Bellefontaine; S. C. Chase, New Vienna; Walter Caswell, Castalia, Erie county; E. T. Clark, Willoughby, Lake county; J. W. Craig, Ontaria; D. Coleman, West Union; P. H. Clemmons, Wiltshire; W. G. Catlin; B. F. Cessna, Van Vert; Jas. Davenport, Constantia; S. Day, Allisonville; W. T. Evans, Richmondale, Ross county; O. Evans, Franklin, Warren county; Wm. Estep, Loydsville, Belmont county; Chas. M. Eaton, Sparta; J. N. Ellsbury, Hammersville, Brown county; J. S. Ely, Somerton, Belmont county; J. T. Edwards, West Carlisle, Coshocton county; J. E. Fowler, Canfield; J. A. Follet, Cincinnati; L. C. Fouts, Troy; M. A. Frost, Havana, Huron county; W. Fobes, Pierpont; J. W. Goodson, Belleville; W. H. Gardner, Oneida Mills, Carroll county; G. S. Guthrie, Pomeroy; J. W. Guthrie, Massillon; Richard Gray, Gambier; W. B. Gibson, Pickaway; W. H. Gilmore, Camden; W. H. Hughes, Berlin Centre; Cyrus Hosack, Fredericktown; J. F. Hess, Fredericktown; J. Q. A. Hudson, Cincinnati; M. H. Haynes; W. S. Hill, Felicity; C. P. Hooven, Franklin; W. M. Houston, Urbana; A.

Harlan, Chagrin Falls; E. Hitchcock, Orwell; L. Holland, McArthur; T. D. Howell, Watertown; J. W. Hammond, Wellsville; E. Hadley, Harreysburgh; J. H. Hair, Fostoria; C. F. Hetlier, Cincinnati; A. E. Isaninniger, McArthur; James Johnson, Kygersville; Robert Johnson, Cincinnati; W. H. Jones, Richfield; R. P. Johnson, Mount Union; E. Jennings, West Charleston; T. B. Johnson, Xenia; A. M. Johnson, Cincinnati; Bruno Lankreit, Van Buren, Hancock county; John K. Lewis, Constantia; H. B. Lung, Cincinnati; H. Leonardstown, Yellow Springs; J. R. Larzelear, Putnam; E. C. Lewis, New Philadelphia; T. N. Lewis, Mt. Pleasant, Jefferson county; J. A. Lair, Cincinnati; J. L. Lamborn, Alliance; P. M. McFarland, Newark; George Mitchell, Mansfield; G. W. Mitchell, Zanesville; J. D. McDill, Oxford; J. C. Maris, Steubenville; W. K. McKenzie, Wellsville; R. R. McCandless, Monroe, Butler county; C. A. Miller, Lee, Athens county; A. F. Matson, Logansville, Logan county; F. C. McConnelly, Vermillion, Erie county; J. O. Marsh, Dallasburgh, Warren county; H. McHenry, Napoleon; C. Morrow, Bainbridge; V. Y. Miller, New Paris, Preble county; Thomas McGovney, Sampsonville; A. McElwee, Hagerstown, Indiana; D. C. Myers, Richmondale, Ross county; E. D. Merriam, Conneaut; W. M. McCulley, Jacksonburg, Butler county; H. More, Cincinnati; J. N. Miner, Edgerton, Williams county; Percival Muenscher, Mt. Vernon; W S. Newton, Ironton; H. B. Noble, Leesburg, Highland county; C. P. O'Hanlon, East Fairfield; F. C. Owen, Richwood, Union county; A. Jones Patterson, Adelphi; W. S. Patterson, Lexington; O. Pomeroy, Fowler's Mills, Geauga county; W. L. Peck; W. C. Payne; D. C. Patterson, Conneaut; P. Pickard, Martinsburg; F. E. Powers, Prospect, Marion county; J. G. Paulding; D. Richards, New Philadelphia; Chas. Richards, New Haven; A. J. Rosa, Madison, Lake county; S. D. Richards, Orrville, Wayne county; D. C. Runnells, McArthur; John W. Russell, Jr., Mt. Vernon; J. L. Sorber, Greenville; J. W. Smith, Hale, Hardin county; Jas. Sigafoos, West Milton; W. T. Sharp, Cadiz; C. C. Stofer, West Salem; A. Sutherland, Mansfield; G. W. Sayres, Manchester, Indiana; D. J. Smith, Hamilton; J. F. Spain, Mechanicsburg; W. H. Swander, Miamisburg; N. B. Sisson, Pine Grove, Gallia county; H. Y. Smith, Alton, Franklin county; S. S. Scoville, Bethel; D. H. Silver, Columbus; T. A. Stuart, Antrim; C. Spence, Perin's Mills, Clermont county; J. R. Shackelford, Troy; J. J. Shelden, Berea; W. J. Sullivan, West Middleburg; D. P. Smedley, Carthage; H. S. Taft, Orivell; John Truman, Groesbeck, Hamilton county; W. H. Thacker, Defiance; R. H. Tullus, Cutler, Washington county; T. C. Tipton, Williamsport; Geo. S. Yingling, Tiffin; J. B. Warwick, Lucasville, Scioto county; J. Wylie, Ripley; Andrew Wall, Cambridge; M. Wilkerson, Clarksville; Wm. Walton, Woodfield; S. R. Wakefield, Warren; H. West, St. Clairsville; L. Woodruff, Alton, Franklin county; Charles O. Wright, Cincinnati; George J. Wood, Lackington, Shelby county; J. H. Williams, Upper Sandusky; Jas. Weaver, Old Hickory, Wayne county; J. D. Wortman, Cadiz; J. Whitaker, Amelia, Clermont county; M. D. Wilson, Belle Centre, Logan county.

The following recent Appointments have been announced:

Surgeons—Thos. W. Gordon, Georgetown, 97th Regiment; L. D. W. Griswold, Elyria, 103d; Jas. H. Estep, Canton, 102d; K. G. Thomas, Allenville, 104th: H. Z. Gill, Columbus, vice Loving, declined, 95th; Jas. R. Black, Hebron, 113th; A. Zeipperlen, Akron, 108th; Geo. A. Collamore, Toledo, 101st; J. B. Cotton, Marietta, 92d; W. P. Elstun, Columbia, 79th; Jas. T. Woods, Williams, 99th; John S. McGrew, Cincinnati, 83d; C. N. Fowler, Poland, Mahoning county, 105th; R. H. Tipton, Darbyville, 90th; G. N. Carpenter, Athens, 91st: Reid Dolph Wirth, vice J. P. Alcorn, declined, 1st Cavalry; Ebenezer Owen, Springfield, 94th; O. E. Davis, Lancaster, 119th; A. V. Patterson, Gallion, 102d; A McMahon, Cincinnati, 64th; J. W. Smith, Wellington, 124th; W. W. Bridge, Marion, 46; E. Sennett, Granville, 94th; C. A. Hartman, Cleveland, 107th; O. E. French, Becket's Store, Pickaway county, 114th.

Assistant Surgeons—W. H. Jones, Richfield, 95th Regiment; S. Harvey Taft, 105th; Henry W. Carpenter, Lancaster, 90th; S. B. Crew, Batavia, 89th; Marian Wilkerson, Clarksville, 83d; H. McHenry, Napoleon, 100th; Henry Y. Smith, Columbus, 24th; John W. Russell, Mt. Vernon, 75th; J. B. Warwick, Lucasville, 91st; Charles O. Wright, Cincinnati, 35th; William J. Sullivan, West Middlebury, 96th; C. Spence, Perin's Mills, 89th; Edwin Hadley, Harveysburg, 83d; W. H. Thacker, Defiance, 100th; J. L. Wylie, Ripley, 90th; R. R. McCandless, Monroe, 110th; W H. Swander, Miamisburg, vice Johnson, declined, 79th; S. C. Gor don, Georgetown, vice Miller, declined, 59th; A. M. Johnson, Cincinnati, 79th; Thomas McGooney, Sampsonville, 91st; N. B. Sisson, Pine Grove, Gallia county, and J. D. Howell, Watertown, 92d; J. L. Sorber, Greenville, and L. C. Fouts, Troy, 94th; C. P. Hoover, Franklin county, 95th; J. F. Hess, Frederickstown, 96th; J. T. Edwards, West Carlisle, and T. A. Stuart, Antrim, 97th; Wm. Estep, Loydsville, and J. S. Ely, Somerton, 98th; Geo. T. Wood, Shelby county, and P. H. Clemmons, Van Wert county, 99th; D. H. Brinkerhoff, Willoughby, and George Butler, Cleveland, 103d; Wm. Woolfley, Lancaster, 62d; John Truman, Groesbeck, 62d; John Miner, Edgerton, 42d; J. D. Wartman, 78th; L. Woodruff, Alton, Franklin county, 78th; G. Bamback, Ripley, Brown county, 80th; J. Whitaker, Amelia, Clermont county, 81st; W. S. Patterson, Lexington, Richland county, 102d; W. R. McKenzie, Wellsville, Columbia county, 104th; C. C. Stofer, West Salem, Wayne county, 104th; W. I. West, Middleburg, Cuyahoga county, 2d O.V.C.; John K. Moore, Cincinnati, 3d O.V.C.; H. B. Noble, Leesburg, Highland county, 4th O.V.C.; D. V. Rannels, McArthur, Kenton county, 5th O.V.C.; W. L. Peck, Circleville, 114th; H. Leonardston, Yellow Springs, Green county, 114th; N. Cole, Cedar Hill, Fairfield, 50th.

VEDDER'S FRACTURE APPARATUS.—Dr. J. H. Vedder, of Flushing, Long Island, describes several new splints, mainly adapted to the treatment of fractures of the long bones of extension and counter-extension, as advocated by Dr. Swinburne, of Albany. The splint for fractures of the thigh and leg consists of a strip of wood in two fragments, three and a quarter inches in width, extending from the crest of the ilium to a distance four inches below the sole of the foot. On the external surface of the splint, at a point corresponding with the knee, is fastened a hinge, with a detachable pin. To the upper fragment of the splint, on the inside, is fitted by a pivot a thin steel plate, seven inches in length, and in width the same as the splint. On the lower surface of the plate is fixed a button to slide into a groove on the lower fragment. On the lower end of the splint is fixed a narrow metallic bar, on which slides a box, having a pulley above and a thumb-screw below, by means of which the line of extension may be suited to the axis of the limb. On the outside of the splint are two depressions, guarded by a steel plate, so arranged that a ratchet-plate may be firmly applied and removed at will. The extension ratchet pulley consists of a metallic plate, having two buttons on its lower surface to correspond with holes on the splint, on the centre of which is fixed a grooved wheel, smooth on its inner and ratcheted on its outer edge. This wheel is revolved by means of a thumb-plate or lever, and is secured at any desired point by a spring-catch. Into this pulley is fastened a strong catgut cord or linen twine, which runs down the splint, and is attached by a loop to the upper hook on the retentive box. The retentive apparatus consists of a thin bar of steel, notched with teeth on one edge, and fastened at either end into a depression made in the splint, on which glides a metallic box, provided with a hook above and below, and having on its under surface a projection to catch into the teeth. This box glides readily upward, but is prevented from slipping downward by the catch. To the lower hook of the box is fastened by a loop a catgut string or strong linen cord, which, running down the splint and through it, over a roller, passes over another roller, and is tied to the hook on the foot-block.

The treatment of fractures of the thigh and leg by this apparatus does not differ essentially from that generally practiced where the Dessault splint is used. Counter extension is effected by slipping the upper end of the splint into a pocket made in the combined pelvic belt and perineal band. The perineal strap is made after the plan now generally adopted in the New York hospitals, by passing a strong tourniquet tape of the required length through a shorter piece of India-rubber tubing, of suitable size, and having left a slight excess of tape within the tube, fastening either end to the tape. Thus moderate extension may be gained. It is well to stuff the tube with candle-wick before fastening the ends. For extension, a strip of cotton-flannel or adhesive plaster, two inches in width, having been passed through the bracket in the foot-block, is applied to the limb on either side in the direction of its long axis from a point below the fracture, forming a loop under the sole of the foot. Coaptation splints, if deemed necessary, having been secured about the point of fracture by straps, and the foot-block having been slipped into the adhesive stirrup, the catgut string is tied to the hook, and extension is gained by revolving the ratcheted pulley on the outside of the splint. If the pulley be now removed, extension will be maintained by the retentive box.

In certain fractures of the leg, when the shortening is great, the upper fragment of the long splint may be detached by removing the pin, and in its place fastened as before the shorter fragment, provided with a steel hoop finely notched in its upper edge, to encircle the limb midway between the knee and perineum. Strips of adhesive plaster, one inch in width, are placed on the thigh from the knee upward, and are reversed over the hoop. The latter is then encircled with a wider adhesive plaster. A fixed point for counter-extension having thus been gained, extension is effected as before described.

The long splint may readily be converted into a double-inclined plane by withdrawing the hinge-pin and attaching the leg fragment to an extra thigh-piece. By means of a slide the thigh-fragment may be lengthened or shortened at will. By applying the ratchet-pulley to the lower surface of the splint, extension may be gained from the foot. A simple double-inclined plane without extension is made by replacing the lower fragment of the long splint with the piece to which the foot-board is attached. The removal of the hinge-pin converts the lower fragment into a simple fracture box.

In fracture of the arm, a strip of adhesive plaster is so placed on the arm, below the point of fracture, as to form a loop below for extension. Counter-extension is made from the axilla by means of a strap, corresponding with the perineal strap. The splint is constructed similarly to the lower fragment of the thigh splint, is made fast by its upper extremity to the belt or to the axillary crutch (if that be used), the catgut cord, running over the roller in the shorter fragment, is tied to the adhesive loop, and extension made as before. Sometimes it is necessary to place cross adhesive strips at intervals around both arm and splint. The same end may as well be effected by the use of the leathered coaptation splints and elastic straps.

In fractures of the fore-arm, counter-extension is made either by encircling the arm and splint (when placed on the inferior aspect of the fore-arm) with adhesive plaster, or by running a strip of the same from the point of fracture on the inner aspect of the fore-arm over the shorter fragment of the splint to a corresponding point on the outer aspect of the fore-arm. Extension is gained by so placing an adhesive plaster on the palmar and opposite surface of the fore-arm and hand as to form a loop above the fingers, tying the catgut to this loop, etc. When, by reason of compound fracture, the splint is placed on the superior aspect of the fore-arm, the pressure of the shorter fragment on the arm forms the point of counter-extension, or that may be secured from above by inserting the pin of the crutch into the tube on the upper end of the splint, and placing the pad against the shoulder. Barton's and Colles' fracture may be treated by this method, but then it is necessary to place a compress near the elbow, and another to fill the posterior concavity near the wrist, and to retain the carpal end of the bone against the splint by passive adhesive strips around both arm and splint.

Dr. Foster Swift, surgeon Eighth New York State Militia, describes an extemporaneous splint particularly adapted to the treatment of arm fractures from gunshot wounds, for which he confesses himself indebted to Dr. Hoges, of a Mississippi regiment in the rebel army. Two strips of adhesive plaster are cut two feet in length and three inches in width ; one of them is carried over the upper fragment to the point of fracture, leaving a loop above ; the other is made to form a loop below in a similar manner. A piece of board, about one foot longer than the fractured limb, with a V-shaped piece removed from each end, is then applied to the arm, and the loops tied to the upper and lower V respectively by means of a bandage. The fragments are thus separated, and the limb can be secured to the splint by a simple turn of the bandage above and below the point of fracture. Whenever the surgeon is unable to provide himself with boards, or is without the means of sawing, he may extemporize a retentive splint from tree branches. Bind together two straight branches of suitable size and length, so that a fork will be left on either end, over which the bandage attached to the loops may be tied. In place of the upper adhesive loop, an axillary strap may be used, made of such material as is on hand, and in the place of the lower loop, a handkerchief bandage can be substituted. The necessary pads and bandages may be made from such material as is convenient. If one branch be let into the other by a notch, before they are bound together, the splint will be firm enough to bear any pressure. In fractures of the fore-arm the two branches must be so bound together that the fork at the elbow may be parallel with the long axis of the arm, and the fork at the opposite extremity parallel with the hand in a supine position. A short fork must be left in the middle of the rustic splint, to which the hand-loop may be tied. In fractures of the leg and thigh, apply an adhesive plaster strap above the point of fracture, so as to form a short loop on the outside of the limb, between the head of the bone and the crest of the ilium, and in the same manner form a loop below the point of fracture, above the external malleolus. Place on the outside of the limb, parallel with its long axis, two forked branches, hinged at the knee by a cord or strip of bandage, and on the opposite side of the limb place a long straight branch. If now the loops be tied to the forked ends and the splint then straightened, extension to the required length will be effected. To secure this extension, bind the two hinged branches together. Let a bandage now be turned around the splints and leg. In place of the upper adhesive loop a perineal strap may be used, and in place of the lower one a handkerchief bandage. In making the hinge at the knee, let both branches be deeply notched to hold the cord in place.—*Amer. Med Times ; Med. and Surg. Reporter.*

DELIRIUM TREMENS.—Dr. Gonzalez Echeverria claims that delirium tremens is always due to cerebral hyperæmia, whether it supervene upon a debauch, or upon the withdrawal of the alcoholic stimulus. This disposition to inflammatory congestion increasing, the symptoms become so identical with those of peri-encephalitis, that we are unable to distinguish the one disease from the other. The only difference is a fatty degeneration of the brain usually present after repeated attacks of delirium tremens. The forms of this disease which prove fatal after the first attacks are rare, but repeated seizures become a powerful exciting source of an incurable secondary diseased state, usually resulting in dementia and general paralysis. The condition of the brain is seldom uncomplicated with some derangement in the digestive organs, and this tends to modify the general treatment in no small degree. Emetics may afford relief in violent cases of delirium tremens, as they do in other apoplectic conditions of the brain, but they are far from being specific agents. Antiphlogistics prove highly pernicious, if there are no evident symptoms of acute peri-encephalitis. Opium, administered in severe attacks, does not quiet the patient, unless the dose be very large, and frequently the rest it produces is then followed by coma, the precursor of death. There is, however, a time in delirium tremens in which opium certainly is of marked benefit: as a stimulant to sustain the patient when the disease has exhausted itself. Belladonna, ergot, digitalis, and other direct sedatives of the circulation, may be more effectual than opium to forestall the cerebral congestion. To pretend, nevertheless, that delirium tremens can yield in all cases to an invariable treatment, or that a single remedy must be exclusively used in them, is surely an error. In the vast majority of uncomplicated cases the expectant treatment is the most successful and the only rational one. It is essential to avoid restraint as much as possible: uncontrolled exertion of movements in a cool and well-ventilated room constantly has a beneficial result, and, joined with the exhibition of acidulated effervescing draughts with from ten to eighteen grains of the sesquicarbonate of ammonia, speedily improves the condition of the patient. The treatment, so directed, does not last longer than any other method. Emetic, purgative, and antiphlogistic means should be employed in the inflammatory or the abdominal form of the disease. In repeated attacks, when delirium tremens freely assumes the character of peri-encephalitis, the treatment must be energetic. The restoration to health is very rare, and even then is simply temporary, because the brain is deeply injured. Under these circumstances the antiphlogistic treatment is of advantage, as also cold applications to the head, which, repeatedly used, are of marked benefit, especially if resorted to after local bleeding by leeches at the back of the ears. If any inflammatory condition exists besides in the thoracic or abdominal organs, it deserves early and close attention; the depletive and purgative system must be, however, managed with great caution, and never carried on too long, as they may prove highly exhausting. Once the source of inflammation removed, attention should be paid to diet, in order to improve the altered condition of the nervous centres. But, as already stated, it is not frequent to meet with chronic cases of delirium tremens completely recovering; generally they are succeeded by dementia and progressive general paralysis, and not seldom by epileptic fits. The free indulgence in spirits may be a source of other disturbances in the nervous system, aside from those which give rise to attacks of delirium tremens; chronic inflammatory diseases of the brain, the so-called white softening of the nervous system, general tremor with thickness in the speech, headache, weakness in the limbs, disturbances in the digestive functions. This train of symptoms may present relaxing exacerbations, which are precursors of progressive paralysis and frequently of dreadful epileptic fits. In two cases of this kind, the iodide of potassium has been used with marked advantage, five grains being given three times a day in an infusion of columbo or bark.—*Amer. Med. Times.*

POISONING BY ARUM MACULATUM.—Dr. Caucellas describes, in the *Oporto Medical Gazette*, the case of a healthy child. While playing about, he met with a basket containing the flowers, fruits, and roots of the plant. The child chewed and ate some of them. On returning to his parents, he complained of burning in the lips and mouth. When seen by the doctor, the child was in a state of prostration, did not speak, but often raised his hands to his mouth and throat, and occasionally uttered a piercing cry, rising as if suffocated. The lips, palate, tongue, amygdalæ, pharynx, etc., were swollen, and pain at the epigastrium was felt on pressure. He could not swallow, and died asphyxiated during the night.—*Amer. Med. Times*, from *Brit. Med. Journ.*

POTASSIO-TARTRATE OF IRON IN RHEUMATISM.—Rheumatism is one of those affections which at times resist all the ordinary modes of treatment in use, though occasionally it will readily yield to a remedy not commonly employed in that affection. This result we have observed in a case under Dr. Willshire's care, in the person of a somewhat pallid girl, with rheumatism of an erratic character, the pains flying about, as it were, to various parts of the body. To this she had been subject for the last three years, and nothing seemed to produce any marked improvement; she was, therefore, ordered a mixture containing the potassio-tartrate of iron, which has produced a decidedly beneficial effect in a short period of time, the pains having become gradually diminished, but not as yet wholly gone, and her health is better. In obstinate and suitable cases, this excellent preparation of iron should be borne in mind. —*Lancet.*

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Original Communications.

My Dear Doctor :—Allow your old friend to trouble you again with some thoughts on diseases of the Army. In my former communication I dealt mostly in excerpta. What was said related to a variety of diseases. I propose now, however, to dwell on a single disease for a while, for the purpose of fixing the mind upon it just now as being very likely to give our forces in the field during winter no little trouble. The disease to which I allude is

Scurvy.

It would be impossible to estimate too highly the duties of the surgeon with reference to the development of this disease among the soldiers. The causes which produce it should be made the subject of close, careful thought. Everything, indeed, favoring its production, should by the military commanders receive the most careful attention.

It may seem out of place in a popular communication like this to say anything on the history of scurvy. Still it is profitable to see, when not too inconvenient, what the Fathers have said and done. I am far from encouraging an undue veneration for those who have preceded us, and farther still from passing them by carelessly. Diseases, like words, have an etymology. Knowledge don't all come at once; no one generation is blessed with more than a very small quantity. For the last two thousand years the Good Man has allowed just a little in the way of drippings from His sanctuary to those generations and to those alone that have been patient and industrious. Before the times of Hippocrates He commenced his favors to the medical profession; but it was to this distinguished personage and his cotemporaries that the richest treasures were vouchsafed. Hippocrates was the Abraham of the profession. He was patient and faithful. His faithfulness as a servant of Nature excites the admiration of all. Like the good old Arabian patriarch, he gave character to his age, while his works marked the commencement of a new dispensation, a dispensation characterized by sound thinking. "Pshaw! Hippocrates knew but little if anything accurately," say some, "and his works are not worth the labor of perusing." Such talk we often hear, but it comes from those indisposed to application. Hippocrates was a rich gift to his age. Medicine was in chaos at his advent into the world. Possessed of uncommon powers and singular devotion, he reduced things to order. In him was united the intellectual and moral traits that accomplish great results. He looked carefully to Nature as the stand-point from which to regard disease. He was not carried away with theories or sophisms. Much of what he taught is as true to-day as when uttered. Indeed, he taught truths which are eternal—need no revision.

But now I have been betrayed into a notice of Hippocrates, a very pleasant exercise, and I have always thought a profitable one. Looking through the past, especially in connection with such a character as the sage of Cos, gives breadth and strength to the mind.

The disease before us, *Scurvy,* it is said was described by Hippocrates by another name, "*eileos haimatodes.*" As far as I can see, however, from the description, I think it does not relate to scurvy. The fœtid breath, lax gums, hemorrhage, and ulcers on the legs, noticed by authors in the writings of Hippocrates as alluding to scurvy, might apply to other diseases as well. I am of the opinion that Hippocrates saw nothing in the way of scurvy.

The climate of Greece and the absence of long voyages by land or by sea in his day, were circumstances not favoring the development of modern scurvy or kindred complaints. Nor is it likely that the succeeding Greek and Roman authors knew anything of the disease, for they have described nothing that compares well with it. It is also true that the Arabian writers have left no descriptions that come nearer to scurvy than the "*spleen malady*" noticed by *Avicenna*.

The first description of a true *scurvy* is that pertaining to the Christian Army in Egypt about the year 1260, under Louis IX. Here we have not only the fœtid breath, spongy gums, debility of the general system, but alluded to distinctly are the *spots* on the legs. Soon after this, from the great improvements in navigation, and the discovery of the East Indies, which gave rise to long voyages, seamen were more frequently affected with scurvy. *Vasco de Gama* made a voyage in 1497 to the *East Indies*, by the Cape of Good Hope; about one hundred of his men, out of a hundred and sixty, died with the malady. During the second voyage of James Cartier to Newfoundland in 1535, the pestilence made its appearance and spread so rapidly and fatally that out of one hundred and ten only about ten escaped. It was here that the first hint was obtained with reference to the cure of the disease. The captain of the vessel learned from a patient that had been severely afflicted, and had recovered, that the cure was due to the juice of a certain tree called the "*banneda*" or "*ameda*."

We might pursue the chronology of this disease still further; but we will close up this branch by remarking that a catalogue of medical authors who have written books and treatises on scurvy is given by Lind. Some sixty are enumerated as having written from 1534 to 1755, a period of two hundred and twenty years. The list commences with the name of *Cordus*, and concludes with that of Charles Bisset, surgeon of Clearland, Yorkshire. It embraces such names as Cordus, Junius, Bruceus, Forestus, Horstius, Marteni, Sennertus, Schmid, Hildanus, Hartmannus, Riverius, Willis, Silvius, Harvey, Sydenham, Poupart, Boerhaave, Pitcairn, Gmelin, Mead, Haxham, Pringle, Van Sweiten.

The celebrated work of Lind made its appearance about the middle of the last century, and is, therefore, now about one hundred years old. This work so completely exhausted the whole subject that it is still considered of high authority. With modern works we will have more to do in another connection.

The Latin authors denominated the disease *scorbutis*, which is said to be derived from *scorbect*, of the Danish language, or *scorbeck*, of the Dutch. The word *scorbo*, of Saxon origin, signifying a griping or tearing of the belly, is looked upon by some scholars as alluding to scurvy. Krantz is said to have been the first author who called the malady scurvy. He wrote about the year 1501.

The attempt was made very early to describe the malady. The description of Wierus seemed so accurate as to satisfy the public mind for a long time. The disease in his day (1567) was confined mostly to the inhabitants of the North seas. He had never met with it in France, Spain, or Italy. Echthius describes scurvy very well. Previously to his time the notion had become current that scurvy involved in some way or other the spleen, *Echthius* proposed the question, whether the blood might not be the principal thing diseased. The symptoms he enumerated as peculiar are, a fetid breath, spongy gums and apt to bleed, with loosening of the teeth, an eruption of livid purple spots, dark-colored maculæ on the face and legs. This author assigned as the cause of the disease, gross unwholesome food of salt-dried or putrid flesh or fish. *Longius* ascribed the frequency of scurvy in Holland to diet and air—principally to eating great quantities of water-fowl, and flesh salted and dried. The weather he thought had a great influence in causing the disease, such as moist air and southerly winds According to his observation, the trouble was most common in winter and spring. He treated the complaint with wormwood and wine. Dodonœus regarded scurvy as occasioned by bad diet. It was occasioned, according to this author, by the use of corrupted rye. He gives instances of its production also by confinement in prison. The cases falling under his observation were treated by the use of vegetables. Patients with symptoms of plethora were bled. Brucœus found the disease to be endemic, in particular countries, from the air, water, and food. In such localities, scorbutic mothers were found to bear scorbutic children. Albertus was of the opinion that the disease may be hereditary and contagious. His views as regards symptoms were very good; and he made valuable contributions to treatment considering the period (1593) of his labors. He recommended the juices of acid fruits, *especially of oranges*, to be sprinkled on meats. These acids were likewise ordered to be put in soups; vinegar and water were directed to be taken freely. The medical treatment of this author was not as advanced as his views on diet. *The Faculty of Physic at Copenhagen*, in 1645, published a paper on the malady for the benefit of the poor. This paper has some most excellent points in it. The paper is divided into four sections. The first recites the cause of the disease, which is considered to be *bad air* and bad food; the second considers the means of prevention, which are hygienic and dietetic; the third and fourth embrace the indications of cure, and the treatment, by the use of vegetable acids, wholesome food, etc.

I have referred to these authors to notice the movements of the medical mind with reference to pathology and cure. The reader will have seen that some things very essential were appreciated a good while ago. Indeed, although the notions were by no means uniform, yet several authors seemed to linger as nearly to the truth as they could well do not to get into full possession of it. As regards treatment, some of the authors enumerated, knew almost as much as is known at the present day. I therefore feel myself benefited, and I hope your readers will also, by the little rummaging jaunt taken among the Fathers.

I now come to notice another author a little more in detail—I allude to *Lind*. This author wrote, as before remarked, about a century ago. He enjoyed the advantage of the labors of his predecessors, and he availed himself of them very freely. Besides, he had the fortune to have a very rich experience of his own. He discussed very fully the alleged causes of the malady. He noticed the opinions freely also of his predecessors on this branch. The use of too much salt (chloride of sodium) the ancients pretty uniformly regarded as the cause. Lind controverted this opinion. He cited numerous facts falling under his observation, and he also made some experiments, all of which he thought controvert the common opinion. Nor was he more favorable to the view, that the malady is occasioned by bad, spoiled, or putrid diet. While he regarded salted provisions as predisposing, he was impressed most with the agency of bad air, *moist air,* and especially with *cold moist air.* The treatment recommended by Lind is very judicious. He spoke highly of milk, the whey part mixed with vegetable juices. Among the vegetables, he enumerated oranges, cabbage, water-cresses, horse radish. Mineral acids were used as a local application to the gums, when swelled or ulcerated.

Those who are desirous of consulting old authors still further, may get the works of *Rouppe, McBride, Milman,* and *Trotter.*

Among the authors, comparatively, of modern times is *Cullen.* So systematic on every subject that occupied his attention, Cullen has some very good suggestions on Scurvy. Regarding the use of salted provisions as the principal cause, he nevertheless dwells at length on the effects of bad air, inattention to clothing, want of exercise, sameness of diet, etc. His remedies are hygienic and dietetic, together with tonics and strengthening drugs. He, and also his commentator, the late Prof. C. Caldwell, thought the disease perfectly preventable, and when found in the navy or army, it argues gross carelessness. We will see more of this suggestion in another connection.

In our own country and in Europe *scurvy* has made its appearance within the last ten or fifteen years, with about the same uniformity that it did in ancient times. During the war with Mexico, the troops were more or less affected. It also followed the soldiers during their service in New Mexico; and the inhabitants of Kansas Territory suffered in the first settlement.

The Crimean campaign was attended with scurvy almost from the commencement. The English and French troops both were severely affected, and, if we are to believe Baudens and McLeod, no small share of the terrible mortality of that campaign was due especially to this malady.

I have now perhaps tried your patience, my dear Doctor, by dwelling so long on what is called the history of the disease. Excuse me, if you please, for old men are always entitled to full license in the way of prolixity.

A description of scurvy would seem to be now in order. I scarcely know how to begin it. The more classical of the authors divide the disease into some three stages. This is the method of Larrey, Napoleon's beloved surgeon. I shall not indulge in any such formality. The primary symptoms are not sufficiently characteristic to be readily distinguishable. They are, indeed, such as are common to quite a number of other diseases. Then, again, the symptoms are very far from being uniform. The descriptions of the ancients as well as moderns show this. In many instances the disease was not what it is at the present day, or the accounts are partial and imperfect. It is also often masked and complicated, so as to be difficult of appreciation. Hence, now, if I were asked for a pathognomonic sign of the complaint, I should be puzzled to give one. But it must not be inferred that it is without characters—that it has, to use a figure, no expression of countenance. The pathologist will ferret out its existence partly by what he can see, and partly, paradoxical as it may strike you, by what he don't see.

Those who wish a truthful and graphic statement of symptoms, given at length, should consult the works of Larrey. I have allowed myself only space enough for the more prominent. After the feelings of debility, enervation, and indisposition to mental or physical exertion that usher in the complaint, the surgeon will notice an alteration in the blood, by the tendency of slight wounds to bleed profusely, and by the tendency also to hemorrhage from the gums and other portions of the mouth. The skin on different parts of the body, and especially on the legs, announces in an equally positive manner the presence of serious sanguinolent lesions; spots make their appearance, of a livid hue, they being caused by hemorrhage beneath the epidermis. In connection with such signs, there are discolorations on various portions of the body, and tendencies to swelling and stiffness of joints. Should the disease supervene during the presence of wounds, gunshot or of other kinds, these quickly change their character, becoming less disposed to healthy suppuration, and not showing any tendency to granulation; the lips of the wound take on the unnatural appearances of the skin, bleed profusely, and discharge an offensive sanguinolent fluid. Cicatrices, that, you know, possess less vitality than other parts, assume often a very peculiar appearance; they ulcerate, and in many instances show a tendency to mortification. Bones that have but lately united, upon the access of scurvy take on disease of the callus, and fall apart. As might be expected with such evidences of disordered blood, troubles innumerable, but secondary, must follow. The livid spots degenerate into black ones, or sloughing sores; the abdomen and joints tumefy; congestions take place, and fever, or rather an irritable circulation, sets in, that continues indefinitely.

From what I have alluded to as characterizing scurvy, is it not very plain, now, my dear Doctor, that the blood is pointed to very emphatically as the seat of the trouble; and that the attention of pathologists should be concentrated on the alteration of this fluid, if we are to have a solution of the question of proximate cause? But what is equally important just here, is that changes in the blood should also be regarded as the stand-point from which to regard the innumerable and terrible lesions, moral, intellectual, and physical, that appear during the progress of this disease.

It is not, of course, to be expected that the crucible of the chemist will reveal to us the exact character of the changes made on the blood in this complaint. Still, it is interesting to see what light a mere chemical analysis sheds on the subject. I know of the labors of no one in this line in whom I have more confidence than in those of Busk. This author shows, by some three analyses of the blood of well-marked cases of scurvy that occurred in the Dreadnought Hospital Ship, that—1. The water is increased, a greater proportion of water in scorbutic than in normal blood; 2. The *fibrin* is augmented to double or treble the normal amount; 3. The *albumen* is increased—but slightly, however. The *solid constituents* are diminished. This is true of the corpuscles in an eminent degree; hence the colorless appearance of scorbutic blood.

The blood, then, being the seat of the lesions, suppose we turn our attention for a moment to the *remote* cause. This is a very fertile topic; perhaps, too, the most interesting connected with the disease. What is it that produces such a miserable condition of the human body, by first invading the blood, and afterwards extending its conquests to every fibre and cell of the organism? I have referred to the history of the malady for the purpose of seeing what the Fathers thought in regard to the remote cause. They suspected and dwelt on quite a number of things; but, as experience increased, their views settled down on exposure to *moist cold air*, the use of *salted meats, sameness of diet*, deprivation of vegetable food, etc. Authors of modern times have added but little to the above, but they have refined and criticised somewhat. Really, facts are plenty to show that neither one of these alleged causes, in itself, produces scurvy. Exposure to cold and wet will produce almost any thing in the way of disease perhaps with as much readiness as scurvy. Salted provisions, continued for a great length of time, do, without doubt, deteriorate. Still, scurvy has been known to occur when no salted provisions had been used, and, on the contrary, where the inhabitants use largely of vegetable food. The latter applies to the Turks, who often suffer extensively from scorbutic affections, although they scarcely eat any meat.

Now, my dear Doctor, I am inclined to think that more will be elicited by invoking *the want of variety in diet* than in any thing else, or in all things else combined.

Let us look at this a little. We have some experiments bearing on the subject. Magendie's are to the point. He found that dogs and other inferior animals required *variety* of diet. Articles, however rich in a single one of the elements of diet, failed to sustain life. Sugar, starch, gelatine, or fat, did not keep the organism in a healthy condition unless combined with something else. Fed on either article exclusively, dogs soon died of inanition. Stark made experiments on his own digestive powers, with various simple substances, used exclusively. He found no one article capable of sustaining life. This noble physician made a martyr of himself to such experiments. He carried them on himself so far that he never recovered from the effects thereof. Magendie found that dogs fed on pure wheaten bread lived only fifty days. Rabbits or Guinea-pigs fed exclusively on oats, wheat, barley, cabbage, or carrots, die in a fortnight, and at times earlier. An ass fed on rice lived only fifteen days. Dogs fed exclusively on cheese or hard-boiled eggs lived a considerable time, but became feeble and lean, losing their hair. Bousingault fed a duck on butter. The duck received from 1,350 to 1,500 grains daily of butter. At the end of three weeks it indicated inanition. The butter oozed from every part of the body. The feathers became greasy, and emitted a fatty odor. Lehman made some experiments on himself, for the purpose of seeing the effects of certain articles of diet on the urine. One of them consisted in confining himself exclusively to non-nitrogenous substances, such as starch, sugar, gum, and oil. He was only able to continue the experiment for two, or at most three days, on account of the disturbance of health which supervened. Prof. William Hammond lived for ten days on boiled starch. After the third day the health suffered, and by the tenth the symptoms were debility, headache, pyrosis, and palpitation of the heart. The most conclusive experiments on the subject under consideration were those made by the *French "Gelaline" Commission.* It was found in these experiments that animals fed on *gelatine*, or even on pure *fibrin* and *albumen*, after a short time became enfeebled, refused to take food, and finally died of inanition.

From such facts, and we might increase them, it is obvious that *variety of diet* is, in the present state of our knowledge, the nearest approach to the truth.

The acceptation of this great fact with reference to the *Nutritive Process*, will likely assist us in getting at the cause of scurvy. The body composed, as it is, of fifteen simple chemical elements, and some eighty-four organic, requires for its nourishment food that will supply these. Or, in other words, in order that good blood be formed for the growth and support of the tissues, the food must contain all the elements of good blood. If, then, the circumstances under which scurvy originates are investigated, they will be found to involve a violation of the aphorism at which we have arrived relative to the formation of good blood.

Prevention of scurvy. Having arrived at what seems to me, without doubt, the cause of scurvy, this looks like the proper place to edge in a word or two on the means of prevention. It has been said, the occurrence of scurvy in the Army is evidence of neglect of duty on the part of officers—that the disease is perfectly preventable, etc., etc. These are sweeping declarations, and although made with great apparent confidence, are but partially true. They would be true if officers, or those having charge of bodies of men could always control their diet—were always able to obtain such articles as preserve health. This, owing to causes in variety, officers cannot always do; and, as a consequence, scurvy will always come in for a share of the mortality of Armies and Navies. But it is not to be concealed that scurvy has appeared too frequently in modern times to be compatable with a timely and judicious regard of soldiers. The French and English suffered terribly in the Crimean war. We suffered in the Mexican war, and our troops now in the field have by no means been exempt from the terrible scourge. As long as food can be supplied of proper quantity and quality, the disease does not make its appearance. Here, then, is the secret of prevention.

It might not be out of place here to review slightly the composition of certain articles regarded as staple in the way of dietetics. As might be supposed the *albuminoid* substances are those of primary importance because they become fixed in the body as parts and parcels of the tissues, and as a consequence exhaustion when they are withheld takes place most rapidly. Starch, sugar, and the oils although not so common as the albuminous matters in the tissues—it being only in the brain and nervous matter that the fats are found in intimate connection with the tissues, and the sugars not being traced further than the blood—are, nevertheless, indispensable as part of the food.

The following is the composition of Wheat flour:

Gluten	10.2
Starch	72.8
Sugar	4.2
Gum	2.8
Water	10.0
	100.00

Composition of Oat meal:

Starch	59.00
Bitter matter and sugar	8.25
Gray albuminous matter	4.30
Fatty oil	2.00
Gum	2.50
Husk mixture and loss	23.95
	100.00

Composition of Eggs:

	White of Egg.	Yolk of Egg.
Water	80.00	53.78
Albumen and mucus	15.28	12.75
Yellow oil		28.75
Salts	4.72	4.72
	100.00	100.00

Composition of ordinary Butchers' meat:

Meat devoid of fat, 85.7	Water	68.418
	Solid matter	22.282
Fat cellular tissue, etc		14.300
		100.000

From the above, taken from Dalton's Physiology, the nutritious character of the articles in common use as food is obvious, because embracing the elements necessary to the making of good blood.

The quality of food determined, the next point of interest is the quantity. Below will be found a very good calculation, taken from Dalton also, for a man in full health and taking exercise in the open air.

Meat,	16	ounces, or	1.00	lb. Avourdupois.
Bread,	19	“	1.19	“
Butter or fat,	3½	“	0.22	“
Water,	52	“	3.38	“

“That is to say, rather less than two and a half pounds of solid food, and rather over three pints of liquid food.”

In this connection, it should also be borne in mind that soldiers in the field may suffer notwithstanding they may have food in abundance. The suffering may arise from several causes, such as carelessness in preserving the food; or bad cooking. Soldiers will not eat sour bread, or putrid meat, or spoiled vegetables; at any rate not in quantities that preserve the status of health. Then, again, Army regulations require the soldiers to cook their own food. Cooking is an art that but few in this country, who offer themselves as soldiers, know any thing about. The process is indispensable for the disintegration and solution of crude vegetables, and unless well performed the more valuable of this class of articles, such as beans and potatoes, are not only unpalatable, but, in a great measure, indigestible. Animal food is insipid in the raw state, and although cooking does not increase its digestibility, it, nevertheless, commends it more favorably to the taste, and thus a flow of the digestive fluids is stimulated.

Scurvy is often complicated with other diseases. In army life it is often associated with diarrhœa, dysentery, camp fever. That it may frequently have the relation of cause to these diseases is not at all improbable. At any rate, the presence of scurvy implies an absence of the ordinary powers of vital resistance to disease of any kind.

Of *Medical* treatment but little can be said. I know of no drugs except those merely of a sustaining character, that are of service. When the disease first announces itself the diet should be looked to at once, and the proper articles for the making of good blood supplied. Spongy gums or hemorrhage from the gums, may be treated with the tinct. of sesquichloride of iron, tannin, or dilute solution of per-sulphate of iron.

Very Respectfully,
HARMODEUS.

October 10*th*, 1862.

American and Foreign Intelligence.

[This Essay, prepared for Army Surgeons, we insert in order to give it general circulation. It is from the pen of Prof. Valentine Mott.—EDITOR.]

Essay on Anæsthetics.

Among the many improvements which characterize modern surgery, one of the most invaluable is the introduction of Anæsthetics. That we should be enabled safely and conveniently to place the human system in such a state, that the most painful operations may be performed without consciousness, is to have secured to man immunity from what he most dreads; for most men fear pain even more than death. When seeking death by suicide, the instinctive aversion to pain is apt to govern in the choice of means, and the person generally selects the method which he imagines will inflict upon him the least suffering.

Pain humbles the proudest and subdues the strongest. It was the great agent of the Spanish Inquisition, because it was more effective to extort confession than death itself. It was pain that made Cæsar weep, and I have seen the most heroic and stout-hearted men shed tears like a child, when enduring the anguish of neuralgia. As in a powerful engine when the director turns some little key, and the monster is at once aroused, and plunges along the pathway, screaming and breathing forth flames in the majesty of his power, so the hero of a hundred battles, if perchance a filament of nerve is compressed, is seized with spasms, and struggles to escape the unendurable agony. We have then this the first reason for the use of anæsthetics.

To prevent pain is humane. No gentleman, not to say Christian, would needlessly inflict pain on any creature. It was, indeed, a certain kind of humanity which led the Athenians to execute Socrates by means of a narcotic draught, and which also made the Romans give their malefactors, during crucifixion, drugged wine. Even the guillotine had its conception in a kind of humane sentiment. Only savages inflict upon their victims the horrors of torture. And I do not believe that there is a surgeon of the nineteenth century who would willingly inflict any unnecessary pain in his operations if once practically acquainted with the means of prevention, and once confident and facile in their use.

But, secondly: *Pain is useless to the pained.* So Galen said centuries ago, and so the late discussions of the question of anæsthesia have abundantly proved; and if any members of the medical profession still entertain the idea that pain may have some occult, mysterious use, with which it would be dangerous to dispense, we must remember that the general sentiment of our profession, together with the common sense of mankind, is now unquestionably far in the advance.

The torment of toothache and the griping of colic confer no benefit on the sufferers; and all experience proves that the step proper to be taken first in the cure of these diseases is to relieve the pain.

When the pain produced by a surgical operation, or any other injury, is excessive, the exhaustion is greater, reaction comes on more slowly, the subsequent process of restoration is delayed, and the tendency to depression is increased. The practice of applying irritating applications and stimulating plasters to phlegmons has long been confined to the ignorant—the educated surgeon preferring soothing poultices and sedative lotions. But this reason may be made stronger; since

Pain is positively injurious to the pained. If sufficiently acute and long-continued, it will of itself produce death. The collapse which follows severe injuries, where there is little loss of blood, is to be attributed entirely to pain. When death occurs in such cases without reaction, it is the direct effect of pain.

Ambrose Parè, the father of modern surgery, in speaking of pain, says, "nothing so much dejects the powers of the patient." Gooch says, "mere pain can destroy the powers of life." My friend, Mr. Travers, observes, "pain, when amounting to a certain degree of intensity and duration, is of itself destructive." And I myself, like every other surgeon in active practice, am continually witnessing injuries where death results solely from the nervous shock.

In corroboration of this fact, we may notice, *en passant,* the Statistics of Amputations, collected by Professor Simpson, of Edinburgh. It is not necessary to quote them at length, but they come, by numeric process, to this conclusion—that in all serious surgical operations the prevention of pain, by the use of anæsthetics, gives to the patient not only present relief, but also a better prospect of subsequent recovery—the mortality in such cases being clearly lessened by the use of anæsthetics. We see, then, that pain has the effect, primarily and directly, to depress the powers of life.

If we inquire into the cause of this, we shall find it in the physiological law, that *the nervous system controls the vascular*, and the collapse which attends severe injuries has its origin in the nervous system. Collapse is a provision for defending the nervous centers from an intolerable assault, and in this way does nature herself in a manner dictate the use of anæsthetics. It was probably in supposed obedience to this indication that John Hunter, great and ingenious even in his errors, advocated amputation before reaction had occurred. He meant to avoid the nervous shock.

In collapse the return of nervous energy precedes the restoration of the circulation; and, admitting all that is claimed for the chemical origin of the forces which produce the circulation of the blood, we must still allow that the current is controlled and directed by nervous influence. The most severe operation during anæsthesia produces little or no effect upon the pulse, because the nervous centers receive little or no impression.

Whatever, then, may be the physiological necessity for pain, though its uses in the animal economy may be to prevent lesion and deter from danger, we are here to view the question merely in a therapeutic light, and to conclude that pain is only evil, and that continually. And now, how shall it be prevented? Obviously by any means which will produce a less injurious effect. We are not required to possess an absolutely innocuous agent; if the injurious effect of the means used be less than that of the pain prevented, we are justified in employing them.

If we examine these doctrines carefully, we shall find that they are in fact not essentially new. The principles on which they are founded have been long recognized *in the use of narcotics*. I was in the habit of giving opiates freely before the introduction of anæsthetics, both before and after operations; and now, after over fifty years of experience, I still retain them in my confidence, for their power to relieve pain after operations, thus improving the condition of the patient, and favorably modifying the subsequent inflammation. In the treatment of certain painful affections, such as puerperal fever or peritonitis, opium is well known not only to be palliative, but directly curative. Richter called it "the grand antiphlogistic remedy."

It has always been used more freely by surgeons in this country than in Europe, and to this cause I attribute, in great measure, our lesser subsequent mortality. And opium and its preparations are the only anodynes well adapted to surgical use. No substitutes are worthy of confidence.

When chloroform or æther is to be used, it is not advisable to give an opiate previous to the operation, as to do so would increase the tendency to subsequent vomiting, which every experienced surgeon is anxious to avoid. When the system is laboring under the shock of any newly-received and severe injury, the powers of life are in abeyance, and the act of retching tends to an unfortunate issue. In collapse, if the patient vomit, he is apt to die.

In cases of hare lip, however, and in operations about the mouth and jaws and nose, we are frequently compelled to depend, as formerly, upon narcotics for preventing or mitigating the pain, as the locality renders inhalation impracticable.

After operations, opiates are to be used, without much reference to quantity, in proportion to the severity of the pain. The only injurious effect of their too free exhibition would be after some hours a little irritability of the stomach. Their constipating tendency in such cases is of no therapeutic importance, and would in no degree increase the subsequent local inflammation.

Alcoholic stimulants are also well known to exercise a limited anæsthetic power. Men in a condition of complete intoxication are sometimes unconscious of the injuries they receive, and formerly some surgeons were in the habit of benumbing the sensibility of the patient, and sometimes I fear their own, by copious draughts of spirituous liquors. But this practice can, at best, produce but very imperfect anæsthesia, and intoxicating drinks are than opium still more apt to disturb the stomach. I well remember a case of amputation of the thigh which occurred a few years since in my own practice, where the attending physician. notwithstanding repeated cautions, administered brandy to the patient so freely as to induce vomiting, thus interfering with the continuance of the reaction, and inducing a fatal result. It was an extensive cannon shot of the knee joint, and on the third day from the injury, before the collapse had sufficiently passed off.

But opium and alcohol have been referred to, rather as illustrations of the truth of the principles of anæsthesia than as practical anæsthetic agents. To produce any considerable insensibility with them would require their use in quantities and for a length of time that could not fail to be seriously injurious to the nervous system. Days would be required to recover from their narcotic effect. Hence it is, that such agents are of little account when compared with inhalations.

The great extent of the pulmonary surface, and the facility with which æriform agents may be introduced through it into the circulation—their complete efficiency and their ready evacuation by respiration—conclusively indicate that the lungs, instead of the stomach, is the best route through which to introduce the proper agents for inducing insensibility. Now, the question arises, can these advantages be secured without danger to the patient? And sufficient time has already elapsed to enable us to reply: *Anæsthetics, when properly used, are perfectly safe.*

At the period of my last visit to Europe, some ten years since, Professor Simpson had then given chloroform to over 8,000 persons without a single fatal result from its use, and by this time he has, no doubt, more than duplicated that experience. In the Crimean war, it was used commonly and freely. Baudens speaks of several thousand cases in which it had been used without accident, and McLeod reports over 20,000 cases, with only a single fatality. Even when ignorantly and carelessly employed, there is less danger than is commonly apprehended. When last in Paris, I saw it used continually, and freely, and carelessly, with little precaution to dilute the vapor, and by rude means—a sort of bag tied over the mouth and nose of the patient—yet heard of no case of asphyxia from its use. Both chloroform and æther are continually employed in this city, in the hospitals and public institutions, as well as in private practice, with little or no regard to either the quantity or intensity of the vapor, and yet but very few accidents have occurred. In my own practice, I have never seen a death from their use.

But there is another reason for employing anæsthetics which must not be forgotten. *The insensibility* of the patient is a *great convenience to the surgeon.*

How often, when operating in some deep, dark wound, along the course of some great vein, with thin walls, alternately distended and flaccid with the vital current—how often have I dreaded that some unfortunate struggle of the patient would deviate the knife a little from its proper course, and that I, who fain would be the deliverer, should involuntarily become the executioner, seeing my patient perish in my hands by the most appalling form of death! Had he been insensible, I should have felt no alarm.

By the use of anæsthetics, also, the shrieks and cries of the patient are prevented; so that the surgeon's powers are not additionally taxed, either to nerve himself to a very unpleasant task, or to control and encourage the attendants.

This discovery, then, has not only taken from surgery its greatest horrors, but it has also very much increased the facility and safety of operations; and in this way, *the domain of surgery is extended.*

In the removal of tumors with intricate surgical relations, the operator now feels at liberty to take the amount of time required for careful and slow dissection. He performs painful operations on children with little or no fear of subsequent convulsions, and the nervous and timid are so protected from the shock that he is free to assert the dominion of the knife wherever science has decreed and the powers of the human constitution will allow.

But it is the object of this paper not only to show the propriety of inducing insensibility to pain, but also to give some plain and practical

Directions for the use of Anæsthetics.

Of these agents, only two—æther and chloroform—are as yet worthy of consideration; and of these I have always preferred chloroform, for the reason that it is more effective. Æther has been supposed to be safer in the hands of the inexperienced, but this is clearly no reason why the practiced surgeon should confine himself to the weaker and more inconvenient agent. Æther is longer in producing anæsthesia, is more bulky, and in some cases fails to produce the desired effect. I am in the habit, however, of employing both, commonly commencing with æther, and resorting to chloroform if insensibility is not readily induced.

It is better to employ no special apparatus for inhalation. All that is needed is a common linen handkerchief, on which the liquid is poured. This should be held loosely in the hands of the operator, as in the folded condition it might interfere too much with respiration. If æther is used, little attention is paid to quantity—from two to four ounces being commonly required for an adult; and all the caution necessary is not to exhibit it so rapidly as to excite a cough. If chloroform is employed, less quantity will be required—from one to four drachms being generally sufficient. But care must be taken to dilute the vapor sufficiently with atmospheric air.

During the inhalation the patient should always be in a recumbent position. We must remember that the vapor of chloroform is exceedingly heavy, having a specific gravity more than four times that of common air, with little disposition to diffuse itself. Carbonic acid, which weighs only one and a half times more than common air, may be poured from one vessel into another like water. By reason, then, of its great gravity, the vapor of chloroform passes into the lungs more readily when inhaled in the recumbent posture; and if for any reason we should desire to free the lungs speedily from its presence, we can do so with most facility when the patient is in the same position.

The circulation of the blood through the lungs is now known to depend on the reaction of its carbonized constituents with the oxygen of the air; and in those cases where death has occurred during inhalation, this result is to be attributed rather to the absence of oxygen in the lungs than to the presence of chloroform in the blood.

We may presume that anæsthetic vapors are not poisonous of themselves, but when ignorantly or carelessly used they arrest the circulation in the capillaries of the lungs, as nitrogen or hydrogen would do by exclusion of the necessary oxygen. Hence, in case of asphyxia from their use, where the natural process of respiration is interrupted, we endeavor to substitute it by artificial means. We open the windows to procure fresh air, dash cold water in the face to excite convulsive respiratory movements, turn the patient on his side to lessen the gravitative tendency of the vapor, and make artificial respiration by compressing the ribs after the manner of Dr. Marshall Hall. And when the vapor is sufficiently displaced from the lungs by admixture with atmospheric air, circulation and respiration will both be restored. For these reasons, it was, that Mr. McLeod, in the Crimea, always preferred to use chloroform in the open air.

We see, then, that to *exhibit anæsthetic vapors too rapidly is to* *incur the danger of asphyxia;* but, on the other hand, to exhibit them too slowly incommodes the surgeon and prolongs inconveniently the stage of excitement; and a greater quantity of the anæsthetic will also be required, and spasmodic action of the glottis is more likely to occur.

Professor Simpson speaks of one or two minutes as being the proper time to allow for the induction of insensibility, but in this country it is customary to take a longer time, perhaps from three to five minutes.

The full effect of the anæsthetic is indicated by sonorous or even stertorous breathing, which, though apparently serious, is of no importance. The pulse is generally but little affected, though it is often diminished somewhat in frequency and force, and yet I have seen it, when the vapor was being administered too rapidly, suddenly stop, to resume its ordinary motion when the effect of the vapor passed off.

There is another practical fact in regard to the use of inhalations which I do not remember to have noticed. *If the patient vomit, the effect immediately passes off,* and, as he is much more likely to vomit when the stomach is full, he should not be allowed food for some hours previous to inhalation.

In operations where the mouth becomes filled with blood I was formerly apprehensive of strangling, but subsequent observation shows that during anæsthesia deglutition takes place by means of reflex nervous action, in the same manner that uterine contractions occur, notwithstanding the use of these agents.

Within the last year Professor Simpson, of Edinburgh, has recommended a new plan for securing the admixture of the proper quantity of air. It consists in spreading a handkerchief single-fold over the face of the patient, and allowing the liquid to fall drop by drop upon it near the mouth and nose. The quantity of the liquid required by this method is said to be less than what is ordinarily used, but from my experience I should apprehend irritation of the skin, as this is apt to occur in using chloroform and æther by the ordinary method. To prevent this irritation I am in the habit of applying previous to inhalation a little olive oil about the mouth and nostrils. Care should also be taken to prevent the vapor from acting on the eyes.

In my own practice I have been in the habit of using the Scotch chloroform of Duncan, Flockhart & Co., of Edinburgh, but have also employed that of Dr. Squibb, of Brooklyn, and with pleasure commend the latter for its purity and reliability.

For such reasons then as have been recounted, I desire to direct the attention of the Surgeons of the Army and Navy to the advantages which would accrue from a more extended use of anæsthetics in naval and military practice. I am satisfied that if, in their operations, the pain were more generally prevented many lives would be saved which are now lost from the shock to the nervous system, and that, in all severe cases, the prospect of recovery is better and the subsequent inflammation is milder when an anæsthetic has been used.

To this conclusion I have not come hastily. Of so much import have I always regarded the prevention of the pain of operations, and so desirable, if it could be practically effected, that ten years before the introduction of anæsthetic vapor I listened patiently and attentively to the claims of animal magnetism to this power to produce insensibility; but found, and I may say with unalloyed regret, that when fairly brought to the test, its most ardent friends were compelled to admit its utter inefficiency, and even since the invention of anæsthetic inhalation, I have carefully tested the power of other agents, such as nitrous oxyde, to produce insensibility to pain, but still consider none of them deserving of mention when compared with chloroform or æther.

In conclusion, perhaps I may say, that these observations and reflections have been made during the intervals taken from a business still pressing, at a time of life when most men desire repose. They are given to the cause of American nationality, and may claim to be at least an old surgeon's offering on the altar of his country. The flag of our Union, the glorious Stars and Stripes, has repeatedly protected me in foreign lands beneath its broad folds, and if what I have written here shall be in any measure successful in preventing the sufferings and prolonging the lives of that noble army who are now serving under my country's banner, I shall receive my reward.

On the Treatment of Suspended Animation under the Influence of Chloroform. By WILLIAM MARCET, F.R.S., Assistant Physician to the Westminster Hospital, etc., etc.

In the *Medical Times and Gazette,* for July 20, I offered a few remarks on the phenomena attending the accumulation of vapors of chloroform in the blood, and insisted on the importance of watching the state of the respiration as well as that of the pulse during the exhibition of this anæsthetic agent. The number for October 28, of the same periodical, containing two new cases of death from chloroform, I may be perhaps allowed to return to this subject, my present object being to suggest a mode of treatment in these cases which to my knowledge has not yet been proposed; and considering the failure which has nearly constantly attended every attempt to restore animation suspended by an overdose or under the influence of chloroform, the following suggestions will be most probably of interest, and also, I trust, of practical utility.

It has frequently occurred to me that, in many instances, the final cause of death from chloroform was owing, not only to its anæsthetic properties, but also partly to spasm of the glottis. I do not mean, however, that the passage of the vapor of chloroform through the glottis and larynx has the power of causing an involuntary closure of the glottis; and I cannot agree with Dr. Black, of St. Bartholomew's Hospital, who states: "Any concentration of the vapor of chloroform which can be breathed is safe; any condition of dilution which causes the patient to cough or hold his breath is dangerous, and if persevered in for half a minute, may be fatal." I believe a spasmodic closure of the glottis to take place occasionally, from the action of the chloroform which has been absorbed into the blood, and that this obstacle to the admission of air into the lungs, taken in connection with the narcotic or anæsthetic effect of the chloroform circulating in the blood, has been in some, perhaps many, cases the actual cause of death. Should this view be correct, it will follow that if air be allowed to enter the lungs by means of tracheotomy, or by opening the glottis with a trache-tube, or any other operation which will effect the same purpose, life will in such cases be saved.

It may be inferred that spasm of the glottis takes place occasionally under the influence of chloroform.

1st. Because several substances possessing anæsthetic properties are positively known, when present in the blood, to have given rise to closure of the glottis.

2d. Because the symptoms of death from chloroform are consistent, more or less, with death from sudden asphyxia.

3d. Because the *post mortem* appearances after death from chloroform may be accounted for by assuming that death has taken place from asphyxia.

In the three following cases, spasmodic closure of the glottis resulted from the presence of alcohol, carbonic acid, and sulphureted hydrogen in the blood, the physiological properties of these three substances being allied, to a certain extent, to those of chloroform; and in two of the instances under our consideration, life was obviously saved by tracheotomy.

A very interesting case is reported in the volume of the Medico-Chirurgical *Transactions* for 1837, entitled "Case of Recovery from the Insensibility of Intoxication by the Performance of Tracheotomy. By George Sampson, Esq." The patient, aged 31, was brought to Mr. Sampson's house in a state of complete insensibility, after drinking freely of beer, and more than a pint of brandy; all voluntary motions had ceased for at least four hours. The stomach pump being used, drew off between three and four pints of fluid, the greater part of which appeared to consist of brandy. Every means of exciting vomiting was afterwards vainly applied; the man became more comatose, his countenance turgid, and breathing more and more difficult; the pulse grew fainter, and was at last scarcely perceptible. He was then removed to the Infirmary, and a consultation was held with other medical attendants, who arrived in the course of half an hour; at that time every appearance indicated the rapid approach of death, and there was no ground to justify a reasonable hope of recovery. It occurred to Mr. Sampson, when standing by the patient's bed-side, that the extreme difficulty of respiration was owing to the existence of "collapse of the glottis," and with this view of the case, he strongly urged that a trial should be given to the operation of tracheotomy. The operation was accordingly performed, without loss of time, by Mr. Andrews. The trachea was no sooner opened than the distension of the veins about the head and neck subsided, the violent efforts of the respiratory muscles ceased, and in about half an hour regular and easy respiration through the wound was freely established. At the same time the pupils became slightly sensible to the stimulus of light, and the pulse returned to the wrist. He continued quiet during the night, but had no return of consciousness till the following morning. The case proceeded very satisfactorily, and the wound being healed in about three weeks, the patient was discharged cured.

This case is particularly interesting, for the analogy between the physiological action of alcohol and chloroform has been quite satisfactorily demonstrated by Messrs. Lallemand, Perrin, and Duroy. Like alcohol, chloroform acts first on the brain, then on the spinal system, and finally on the sympathetic; the brain exerts a certain power of concentrating within its tissue both chloroform and alcohol; the period of excitement produced by chloroform, is not unlike that of alcoholic intoxication; and insensibility equally results when a sufficient dose of alcohol or chloroform has penetrated into the circulation.

If alcoholic poisoning is positively shown to have threatened life from asphyxia owing to spasm of the glottis, I see no reason why death from chloroform should not be due occasionally to the same phenomenon.

The two other cases I have to report have come under my own observation. One of them was an instance of secondary asphyxia, from spasm of the glottis, after immersion in the Serpentine during the skating season. The patient, a middle-aged man, had been entirely under water, but on being taken out, respiration returned, and continued comparatively free until placed in a warm bath, when he suddenly exhibited alarming signs of asphyxia, obviously from spasmodic closure of the glottis. A few minutes later the patient was removed to a bed, when several similar attacks occurred, one of them still more severe than the first. He recovered in the course of some hours.

This is an instance of spasm of the glottis produced by an accumulation of carbonic acid in the circulation. The gas in question possesses anæsthetic properties, and is so far allied to chloroform.

The third case is one of equal interest, although the subject of the observation was a dog. About two years ago, when engaged in injecting an aqueous solution of sulphureted hydrogen into the external jugular vein of a dog, I observed that the animal's respiration, instead of becoming somewhat deeper, as usually happens during this operation, began to fail, and shortly afterwards ceased, without there being the slightest struggle or apparent symptom of asphyxia from the closure of the glottis. I immediately prepared to have recourse to artificial respiration by means of an instrument I have invented for that purpose. In order to insert a tube into the trachea, I incised this organ, when immediately, to my surprise, the animal commenced breathing through the opening. After a few minutes, free respiration and sensibility returned, and the animal recovered perfectly. It is obvious that, in the present instance, the respiration had been arrested by closure of the glottis, and the animal was dying from asphyxia; had not tracheotomy been performed, the dog would have died with every symptom of syncope. This case, which I report from memory, was witnessed by many of the pupils of the Westminster Hospital. It shows two interesting facts.

1st. That the presence of an excessive quantity of sulphureted hydrogen in the blood may cause death from spasm of the glottis; and, 2d. That on those occasions death takes place without the struggles or convulsions so peculiar to impeded respiration. Consequently, in cases of death from chloroform, the absence of convulsions is no proof that there exists no mechanical obstacle to the free admission of air into the lungs.

The symptoms of death by chloroform are consistent with those of asphyxia. Dr. Snow's book contains a very interesting case of death from chloroform, with symptoms of asphyxia, which was communicated by Dr. Solly to the *Medical Gazette.* This case (No. 12) bears directly on the subject of the present communication. The patient, a porter, aged 48, and apparently in perfect general health, was submitted to chloroform for the removal of a toe-nail. The anæsthetic vapors were administerd by means of an inhaler; after the operation had been performed, and being still insensible, the patient's face became dark, his pulse small, quick, but regular, respiration laborious; his neckerchief was removed and chest exposed to fresh air from a window near to the bed, cold water was dashed on his face, the chest rubbed, and ammonia applied to the nose. After struggling for about a minute, he became still, the skin cold, pulse scarcely perceptible, and soon ceased to be felt at the wrist. Immediately on the appearance of these symptoms artificial respiration was commenced by depressing the ribs with the hands and allowing them to rise again, until the proper apparatus was brought, when respiration was kept up by means of the trachea-tube and bellows, and oxygen gas introduced into the lungs by the same means. Galvanism was also applied, but to no purpose.

Dr. Snow considers there is some obscurity about the above narrative, which I have given as nearly in the same words as those used in the report; in his opinion the symptoms exhibited would be inconsistent with death from chloroform. It appears to me, however, that this is clearly a case of asphyxia from spasm of the glottis under the influence of chloroform, and I cannot help believing that had treacheotomy been performed at the time when artificial respiration was commenced, the patient would have been saved. If most cases of death from chloroform are not attended with evident signs of asphyxia, still this is no argument in favor of the absence of spasm of the glottis, for it must be remembered that poisoning by chloroform is a complex phenomenon which results from excessive anæsthesia producing a tendency to paralysis of the muscles, and an action on the heart predisposing to death by cardiac syncope; any spasmodic closure of the glottis occurring under these circumstances would, it may be anticipated, cause sudden death without the recurrence of convulsions, or struggles for breath.

The *post mortem* appearances in cases of death from chloroform do not preclude the idea of death from asphyxia; indeed in cardiac syncope, which is according to Dr. Snow the fatal termination of poisoning by chloroform—"If the blood have not been displaced by artificial respiration or other causes, the right cavities of the heart and the adjoining great veins will be found filled with blood, and the lungs will in many cases be more or less congested. The appearances, in short, will be very much the same as in asphyxia by privation of air which ends in a kind of cardiac syncope." Nothing can be more in favor of the view I am advocating. It must be well understood that I do not consider every case of fatal poisoning by chloroform as owing to spasm of the glottis; and there is every reason to believe that in some instances death takes place from paralysis of the muscles of respiration, in others from cardiac syncope, or from a simultaneous occurrence of both these effects.

If it be admitted that death from chloroform be occasionally owing to spasm of the glottis, then the importance of performing tracheotomy in these cases, and adopting some means of allowing air to enter freely through the wound, will be readily understood. It must be remembered that the cases on record of recovery from suspended animation owing to an overdose of chloroform are very few, and, as a rule, it may be considered that, after the respiration has ceased, and the pulse becomes hardly perceptible at the wrist, death is inevitable. Under these circumstances, any means apparently available should be adopted. The operation of tracheotomy ought to be performed as soon as possible after the respiration has stopped, and the patient assumed that livid countenance known in these cases to precede death; the loss of every second diminishes the chance of saving life. Artificial respiration, if possible, must, however, not be neglected, and should be carried on before, during, and, if necessary, after the operation of tracheotomy has been performed. Artificial respiration is of great importance in connexion with death from chloroform, and I am at present busily engaged inquiring into this subject.—*Medical Times and Gazette, and Boston Journal.*

Strychnia and Morphia.

Mr. John Horsley, analyst for the county of Gloucester, has lately drawn attention to an observation originally made by Dr. Letheby, and confirmed by Dr. Reese and Professor Thomas, of

Philadelphia, that morphia has the power of disguising and destroying the colored reactions by which strychnia is recognized. His investigations have led him to the discovery of a method by which the difficulty thus arising may be overcome, and also to a new test for strychnia. He writes: "I have, however, satisfied myself of another very important fact, viz: that it need not create any alarm or uneasiness in the public mind, for the difficulty in question is more apparent than real; since, in any case where both active principles are capable of extraction from a dead body, the strychnia is effectually separated from the morphia, in a form admirably fitted for identification, by adopting the following simple method, which I had the honor of submitting to the British Association for 1856, viz: to convert the strychnia into a chromic salt, by the addition to the pure and concentrated liquid of a few grains of the neutral chromate of potash, and briskly agitating the mixture with a glass stirrer, for a minute or so, when, if strychnia be present, a more or less flocculent, but crystalline precipitate, of a golden color, will separate and collect at the bottom of the vessel. In the course of a few minutes, the supernatant liquor containing the morphia (which is much longer in precipitating), must be carefully decanted. If now a drop or two of the residue containing the golden-colored strychnian salt be taken up with a pipette, and projected into a small white porcelain dish, and touched with strong sulphuric acid, the usual purple and violet-colored indications of strychnia will be most marked. In this way, a very small quantity of the poison will suffice for numerous chemical experiments, as demonstrated by me before the Chemical Section of the British Association. A similar precipitate of morphia does not react in this way, but is turned of a green color; hence, when morphia is in excess, it has the power of completely masking the colored reaction of strychnia, which, though present, remains passive and unelicited; but, by the process described, the strychnia can be easily separated from the morphia, or any other active vegetable poison with which it may be associated, when once these have been extracted from a dead body in a sufficiently palpable form. Thus much for the method of separating strychnia when present with morphia; but beautiful and delicate as is this method of detection, yet it is very far inferior to a new reagent I have just discovered, viz: the nitroprusside of sodium, which enables me to detect the 100,000th of a grain with the greatest ease! These may be considered large figures, but are arrived at thus: One grain of strychnia is first dissolved in 100 grains of water; then one drop of this solution is mixed with 999 more of water, and a fragment of the nitroprusside of soda added. When dissolved, and well mixed by agitation, a single drop of this solution, equal to the 100,000th of the original grain of strychnia, is let fall into a small white ware dish, and, after evaporation to dryness over a steam bath, is fit for the development of the characteristic color, by merely drawing a glass rod dipped in sulphuric acid across the spot. The 3000th part only, with the best experiment, being the limit of the ordinary process, the new test, therefore, exceeds the old by 97,000 times the intensity; in other words, it is about 30 times more delicate."—*Med. Times and Gaz.*, June 28, 1862.

On the Pathological Anatomy of Puerperal Fever. By Professor BUHL.

Professor Buhl, of Munich, having examined the bodies of fifty women who died of puerperal fever, states that a constant and characteristic appearance is a pappy, red or dark brown or grayish-black mass lining the inner wall of the uterus, giving forth sometimes a gangrenous and sometimes a putrefactive smell. It is this matter which supplies the poisonous infection of puerperal fever; but as to the cause of the production of the fever, differences of opinion prevail; some regarding it as the consequence of the immediate passage of poisonous matter into the womb, while others think that a preliminary poisoning of the blood by misasmata takes place, the corrupted mass being only a secondary result. Anatomically, we may distinguish two forms of puerperal fever—puerperal pyæmia and puerperal peritonitis—forms which may be clinically distinguished, as it is of importance in prognosis that they should be so.

Puerperal pyæmia does not usually prove fatal before the ninth day, and frequently not until after the third week. It is chiefly met with where the disease does not put on an epidemic form, the veins being the channel of infection; coagula, accompanied by suppuration, being found in the veins of the walls of uterus, in a pampiniform plexus or in a spermatic vein. In no instance did the author ever find both spermatic veins obstructed, and in only one case was the entire vena cava inferior filled with adherent coagula. These coagula and their subsequent caseous metamorphosis are quite sufficient to establish the existence of puerperal pyæmia, the so called metastatic abscesses being seldom met with. Œdema of the lungs and ecchymosis of the pleura were frequently met with by the author.

The puerperal peritonitis was more frequent, more violent, and more rapidly fatal than the puerperal pyæmia, inasmuch as death sometimes occurred within two days after delivery, and in but few cases was delayed to the third week. Of the 32 cases of this variety only 2 were chronic, proving fatal in the course of six or eight weeks. In all the cases purulent exudation was found, in 18 instances occupying the tubes, and in 14 the subserous tissue of the uterus. The two conditions were found combined in only 4 instances, and a plugged condition of the veins was observed only in 5 instances. Of the 18 instances in which puerperal pyæmia occurred, in only 2 was there pus in the tubes, and in only 1 subserous effusion of pus; so that of 20 cases of tubal suppuration, in 18 peritonitis was present, and of the 14 cases of subserous suppuration peritonitis occurred in 13. On the other hand, of 23 cases of purulent coagula of the veins, in only 5 did peritonitis occur, and in all these there was subseous or tubal suppuration also, and in 16 cases in whish these parts exhibited no pus, no peritonitis took place. The disease of the veins thus bore no relation to the occurrence of peritonitis. It results from these facts, that peritonitis may arise either from the immediate passage of the poisonous material from the uterus through the tubes, or from the conveyance of this from the inner wall of the uterus by the lymphatics. The supposition that the pus may have proceeded from the perritoneum into the tubes is negatived by the fact of these having been free of it in 14 cases; and the pus of the peri-uterine, subserous tissue or of the lymphatic vessels must be regarded rather as a consequence than a cause of the peritonitis, inasmuch as it was absent here in twenty instances. The prognosis is not alike in these two modes of origin of the peritonitis. That induced by the pus from the tubes is a much slighter and more simple inflammatory process, met with when there is little or no epidemic extension of the disease; while the peritonitis resulting from lymphatic absorption is a much severer form of disease, preceding or accompanying general infection, and is especially met with in the epidemic form.

In both of the principal forms of puerperal fever, besides the morbid uterine appearances, there were found—1. Almost constantly swelling and watery infiltration of the retro-peritoneal, inguinal, and (though seldomer) the mesenteric glands. 2. Osteophytes on the internal surface of the cranium. 3. In several cases, especially in pyæmia and lymphatic absorption, a distention of the cortical substance of the kidney, together with the microscopical appearances corresponding to the acute stage of Bright's disease. In only two of fifty individuals was tuberculosis found.—*Froriep's Notizen.* 1861. No. 13.—*Med. Times and Gazette.*

Inspection of the U. S. Military Hospitals by the Sanitary Commission.

This inspection, by a body of physicians and surgeons from civil life, to be kept up, week after week, until May next, meets with general approval in the community. No measure could have been advised better calculated to quiet the public mind on the all-important subject of the care of those dear to them, whose patriotism has made them the victims of the casualties or the diseases which this wretched war has brought upon them. There have been so many stories of mismanagement, neglect and cruelty in the newspapers, that it was high time these evils were corrected, if they really existed, or that the popular mind should be authoritatively disabused of false impressions which were causing an untold amount of wretchedness to sympathizing hearts at home. We have been strongly inclined to the opinion that much has been said in newspaper articles on this subject, which, sifted down, would prove to be the grossest exaggeration. The proposed inspection will clear up all uncertainty about it. And we hail as strong presumptive evidence that there has been a great overstatement, to say the least, of any defects of hospital administration, the fact, which we learn on the best authority, that the gentlemen in charge of Government hospitals receive with the most cordial courtesy the visitors of the Commission, showing the greatest alacrity to facilitate their examination, and manifesting a desire in every way to carry out the plan proposed This is a good augury that such evils as may exist are not at any rate those of willful neglect and cruelty.

The inspectors, in making their visits, are furnished by the Surgeon-General of the United States Army with a document enjoining upon all medical officers to give them free admission into all hospitals, and to render them every practicable facility and assistance in the pursuit of their investigations. That the examination they are expected to make is of the most thorough and searching character, may be learned from the details in the following extract from the paper which will be placed in the hands of each inspector on commencing his tour of duty, which has been kindly furnished us by Dr. Clark, Inspector-in-Chief.—*Boston Med. & Surg. Journal.*

In the performance of your duty it is the desire of the Commission that you should cause as little inconvenience as possible to the medical officers of the hospitals you may visit, extending to them the deference and courtesy proper to their responsible positions; and the Commission is confident that, as members of the same profession, with the same high objects in view, you will be welcomed by them with equal courtesy, and every facility afforded you of obtaining the information you seek. It is proper to state to you that your visit is made by invitation of the proper authorities, and at the express desire of the Surgeon-General of the Army, to whom a digest of your report will be presented. If you should encounter any serious obstruction in the performance of your duty, please report the facts fully and promptly to Mr. Olmsted, at Washington, and proceed without delay to the next hospital in your circuit.

It is desired that your report should embrace your observations on the points, and answers to the questions which follow—stated under the same heads, and, as nearly as possible, in the same order:—

Locality of the hospital; character of its site in regard to healthfulness; character of soil; prevailing winds; proximity of other buildings—of railroads—of navigable river; elevation; style of building.

Surgeon in charge; name; rank.

Number of assistant medical officers; if employed by contract by Government; if so, if subjected to examination before employment, and by whom.

Number of hospital stewards, ward-masters, male and female nurses; estimate of character and efficiency.

Number of patients in hospital; examine "Morning Report," and judge if books are carefully and accurately kept.

General character and degree of gravity of cases before treatment; proportion of medical and surgical cases; proportion of convalescents; are they promptly returned to duty, or discharged the service?

Estimate the degree of medical and surgical skill of medical officers, and the humanity and kindness evinced by them, and also by the nurses.

At what hours are the regular visits made to the sick, and by what officers of the hospital?

How often does the surgeon in charge visit the wards?

Rate of mortality; success of surgical operations; is there a dead-house? Are *post-mortem* examinations practiced? Are pathological specimens preserved? Are burials conducted with propriety? Are means taken to mark graves, so that they can be recognized by friends? Are chaplains, or proper religious advisers, at all times accessible to the sick?

Diet: is it sufficient in quantity, and good in quality? suited to conditions of patients? well cooked? served warm? sufficiently varied? Are the coffee and tea good? How often do the patients get fresh beef? Is the beef-tea properly made and freely provided?

Is the hospital fund sufficient to secure an ample supply of milk, butter, eggs, chickens, ale, porter, and other delicacies and necessaries for the sick not included in the supply tables of the commissary and hospital departments?

[Government regulations allow the very ample ration issued by the commissary department to be drawn at its commuted value in money, by the surgeon in charge of a hospital, for the sick soldiers under his care, and this constitutes the hospital fund, with which all extra necessaries for the sick are to be purchased under his direction. The amount of this fund, with proper management, is amply sufficient for the purpose for which it is designed. See Revised Army Regulations for Medical Department.]

Is the hospital fund allowed to accumulate while the sick are in want of any thing?

Are the stimulants employed of good quality and judiciously administered?

Police: Is strict cleanliness observed in the wards—in their floors; in bedsteads and bedding; in clothing, in vessels used for food; spittoons; bed-pans; sinks, and water-closets? In the kitchen and cooking utensils? In the apothecary shop?

Are the knapsacks and property of the soldiers properly cared for by the ward-masters?

Is the water supply ample? for washing, bathing, water-closets, and in case of fire? Is its quality good?

Are the provisions against fire complete? Are there fire-escapes by means of windows in each ward cut down to the floor, or other sufficient means of egress?

[Many hospitals, being frame buildings, are particularly liable to the danger of fire, and the helplessness of the sick renders it especially necessary that ample provision should be made in every possible way, by fire engines, drilling the attendants, supply of buckets, care in use of lights and fires, ether, alcohol, camphene, kerosene, &c., &c., to secure their safety.]

What means are employed for lighting and heating the wards?

Is the drainage completely provided for? Where tents are occupied by the sick, are they provided with floors with a free circulation of air beneath them, and with provision against collection of rubbish? Are they secure against rain, and are trenches dug when necessary to carry it off?

Are the grounds around the hospital buildings and tents kept clean?

Is the supply of fresh air ample, with all possible provision for ventilation?

What is the average air-space allowed for each patient?

[This includes the all-important question of crowding the sick—a most common and fatal error. It is well to bear in mind that every sick man has a right to 1200 cubic feet of air as a minimum estimate. By multiplying the length, breadth and heighth of each ward, and dividing by the number of beds it contains, the answer to the question is obtained.]

Have continued fever or dysentery assumed a contagious character?

Have erysipelas, hospital gangrene, or pyæmia prevailed?

In such event, have the patients been promptly scattered?

Are deodorizing agents judiciously employed?

[In the absence of chlorides of lime and soda, and the more common disinfectants, gypsum or plaster of Paris, sulphate of iron and coal-tar answer this purpose admirably.]

Are screens provided for isolating dying patients?

Is the supply of laundresses and means of washing clothing and bedding sufficient?

Is there a sufficient supply of mattrasses, bed-sacks, straw, blankets, sheets, and mosquito-bars?

Is the straw used for bedding changed and burned at proper intervals?

Is there a sufficient provision of clothing, shirts, drawers, socks and slippers for the patients?

[By recent law of Congress, enforced by the Secretary of War upon the Quartermaster's Department, soldiers who have lost their clothing through the casualties of war, are entitled to an additional issue, without deduction from their pay. By another appropriation by Congress, provision has been made for obtaining, through the medical purveyors, clothing for the sick in hospitals. When from unavoidable deficiency said clothing for the sick cannot be obtained through the proper channels, the Sanitary Commission will afford the necessary supply.]

Are invalided soldiers, discharged on certificates of disability, supplied with full information as to their rights under the pension law? and of the provision made by Government for furnishing those who are mutilated with artificial limbs?

Are patients kept closely cropped, and proper precautions taken against vermin?

Is there any lack of reading matter for convalescents? of games? of tobacco?

In addition to the foregoing, you are invited to furnish any further suggestions or details you may deem worthy of record.

In any case of doubt as to the nature of your duty, you will please apply to the General Secretary, at the Central Office, Washington, D. C.

It is desirable that you should render yourself familiar with the Revised Army Regulations, as far as they concern the Medical Department, and also with all circulars and orders emanating from the Surgeon-General's office.

By order of the Executive Committee,

W. H. Van Buren, M.D.
C. R. Agnew, M.D.
Wolcott Gibbs, M.D.

Is the Produce of Diseased Animals Unwholesome as Human Food? Being a Communication read before the Metropolitan Association of the Medical Officers of Health on the 16th of April. By John Gamgee, Principal of the New Veterinary College, Edinburgh.

In undertaking to collect information from all sources on the innocuous or unwholesome character of meat and milk of animals affected with disease, or dying from unnatural causes, I was aware from the first how very difficult it was to condense, in a connected form, and to draw satisfactory conclusions from fragmentary notes scattered throughout medical and veterinary treatises, journals, &c., which have been published from ancient times to the present day. I do not presume, and, indeed, have not attempted, to write an exhaustive essay, but rather to classify the knowledge it has been in my power to obtain, either from personal observation, or from my readings, during the last dozen years. We are very much in the same position as to facts concerning animal food, as a cause of human disease, as we were fifty years ago, or perhaps not more than twenty-five, in relation to impure air and water. It was known that people might be suffocated in a room in which they inclosed themselves to breathe the fumes of charcoal, and that human beings might be so packed as to die within a few hours from suffocation. Alarming facts were occasionally obtained of a death or deaths from foul air, but no one suspected that epidemic diseases and contagious fevers were constantly induced by over-crowding, deficient systems of ventilation, drainage, &c. It is found that the physician in active practice cannot, however careful he may be, trace each individual case to its true source. Much more is done in this direction at the present time than formerly, but the cultivators of sanitary science—the students of etiology, who aim entirely at prevention, rather than relieving and curing the diseased—have demonstrated that we must study the influence of causes *per se*, and not attempt, from an observation of effects, to determine at once how they have been induced. The history of parasitic diseases, so much enriched by the observations of zoologists during the last ten or fifteen years, demonstrates how impossible it is to adhere to the old exclusive method of studying medicine by clinical observations alone. It is with veterinary as with human medical science. We have arrived at a period when there is no limit to the studies we may engage in, with a view to obtain a complete knowledge regarding the laws which govern the origin and development of disease. It is the spirit of universal observation which must be encouraged amongst pathologists; and I have ventured to select a subject for special comment which offers a wide and untouched field for original investigation. We can refer to violent attacks of dysentery, to malignant pustule, mysterious and fearfully sudden deaths, resulting from the consumption of impure animal food; but we know not to what extent and in what way it aids in constantly raising human mortality; what per centage of deaths, if any, must be annually attributed to the constant and unchecked traffic in the carcasses of diseased animals, or the milk of foully-kept or diseased cows. My conviction is so strong, that of all food adulterations, none operate so constantly and fatally as the deteriorations of animal produce, from the causes hereafter to be noted, that I have for some years aimed at exposing the danger of infamous practices, which have assumed the form of a regular and legitimate trade, resulting from the unfortunate prevalence, especially within the last twenty-three years, of contagious cattle plagues in the British dominions.

It is an old practice, in remote agricultural districts, to save the flesh of animals dying suddenly, by bleeding before signs of life have entirely passed away. But when pleuro-pneumonia spread throughout Britain, it created great alarm. Veterinians were consulted; they failed in curing the disease; farmers and cowkeepers were often ruined; many adopted the practice of calling professional aid until a change of system or bankruptcy proved the only alternative. Too well have many avoided the latter! Had they not, Government would have been warned ere this, and we might probably not have to record to-day the terrific mortality prevailing very extensively amongst cattle throughout the country, which is borne silently by stockowners generally, because they know how to save and make money by permitting the slaughter of diseased animals for human food. In the city of Edinburgh there are dairymen who never knew what it was to make money until pleuro-pneumonia appeared. They originally paid £10 or £15 for a rich milking Ayrshire, which they kept a twelvemonth or more. They now pay £25 or £30 for a fat cross-bred short-horn cow, which they calculate on selling diseased within three months from entering their dairy, and they find the latter system most profitable. I have met with much active opposition on the part of the dairymen in this city, in my efforts to adopt means for the prevention of disease, and to check the traffic in diseased animals. They have gone so far as to say, "We do not want disease out of the country. It is keeping every thing high."

I have no hesitation in stating, that the prevailing cattle-plagues can be prevented—that the trade in diseased animals is opposed to our agricultural prosperity—that such trade is ruinous to the nation in perpetuating foreign diseases on British soil, and that it is a powerful cause in the production of human diseases. An effectual check on the fraud daily practiced of selling diseased for healthy meat would confer a lasting boon on the nation at large and on agriculture in particular. It is the hope that such a check may be insisted on by the medical officers of health, and by the public generally, that I lay before you this imperfect sketch on the unwholesome qualities of diseased meat and milk.

The most convenient and satisfactory plan that has suggested itself to me for the purposes of this essay, is to classify the impurities known to us as pervading animal food. They are as follows:

Firstly—Cadaveric venom and animal poisons of undetermined nature, developed spontaneously in health or disease.

Secondly—Animal poisons, well known from their effects in creating specific contagious diseases. These effects are constant, if circumstances are favorable for their development, and unchangeable; some of these poisons affect animals alone, and others both man and animals.

Thirdly—Organic poisons the result of decomposition. These vary much according to the circumstances under which putrefaction is encouraged; and they differ from the specific poisons alluded to above.

Fourthly—Mineral and vegetable poisons absorbed into the systems of animals, and which contaminate the flesh and milk so as to render these unfit for human food.

Fifthly and lastly—Parasitic animals and vegetables inducing disease in man and animals.

I. CADAVERIC VENOM, INCLUDING ANIMAL POISONS OF UNDETERMINED NATURE, DEVELOPED SPONTANEOUSLY IN HEALTH OR DISEASE.—I might probably be more correct in using the singular, poison, rather than the plural, under this head. The effects have been so similar when observed in the human subject, that I am inclined to regard as one and the same the deleterious principle developed in an infuriated and over-driven ox, a passionate woman, the cadaveric venom of the human subject, or that of human beings or animals suffering many hours in labor, or from parturient fever. The poison depends, apparently, on the effects of excitement, exhaustion, or pain on the nervous system generally. Kill an animal in health, and often in disease, and there is no danger if the anatomist inflicts on himself a dissection wound; but this is not the case with wounds received in dissecting the human body. The conditions of death are totally different in man and animals; the mental influences affecting the one, and the perfectly quiescent and unheeding state of the latter, at once suggest how very materially the tissues may be affected in death in man, and not in the slaughtered ox, or even in the dying horse or dog.

There is a very active cadaveric venom in an animal goaded and hunted until it becomes infuriated. I have frequently spoken to butchers on this subject, and have been informed how they have suffered from cuts received in dressing the carcasses of such animals. The change in the muscular system from death under these circumstances is very manifest; to use the butcher's expression, "the flesh is black," and no part of it has the bright normal flesh-tint seen in the ox killed in a quiet state. The form of disease in man induced by eating the flesh of an over-driven ox is violent dysentery, with considerable febrile excitement. The continental inspectors of meat, who are principally veterinary surgeons, declare that the over-driving may act as an exciting cause to malignant anthrax; but there is a very remarkable difference between the effects of eating the flesh of an over-driven ox and that of an animal dying from a form of anthrax. I shall notice this further on, but must refer to my experience of traveling diseased animals by road or rail. Within the last few years splenic apoplexy—the *sang de rate* of French authors—has appeared in some of the best farms in England and Scotland. It is the result of plethora, and in the majority of instances is unconnected with the development of a specific poison, and is therefore non-contagious. It is remarkably favored by animals being inclosed or tied up in stalls, and one of the most ready plans that I have discovered to prevent a fatal apoplexy, when the premonitory signs are witnessed, is to move the animal about and travel it on the road; in no instance that cattle have been traveled after the appearance of the first symptoms of splenic apoplexy, have I known the apoplectic stroke to occur, though several hours' journey by rail had to be made before reaching a large town, where the cattle would be slaughtered. I am inclined to think that, as in anthrax and in the over-driven ox, we have the same ecchymoses, dark color of the flesh, and other post-mortem signs, veterinarians have confounded the two conditions.

The attention of veterinarians has been frequently turned to the severe eruptions of ecthyma which occur on their arms in attending cases of difficult labor. Similar observations have been made by human obstetricians in their practice.

In the *Edinburgh Veterinary Review* for July, 1858, there is a report of an attack by which I suffered, in common with other persons, that attended a parturient cow. In considering the nature of the poison, I then mentioned that it was not only in the local secretion, but in the animal's system, that it might be found, and for the following reasons:

1*stly*. The animals which, for a succession of many hours, are exhausted by the pains of labor and the interference of men, very frequently perish, notwithstanding that delivery is accomplished. The cause of death is often spoken of as metritis, but the animals *rapidly* sink in a manner which inflammation of the womb alone can scarcely account for.

2*ndly*. The flesh of such cows has been proved to be injurious, if partaken of by men. In support of this statement I shall simply transcribe Noirot's report of a case which recently occurred in Prussia.*

"On the 17th of June, 1856, on the estate of Grüneberg, in the district of Prenzlau, was slaughtered a cow, otherwise healthy, but which a veterinary surgeon could not deliver of a calf. On the 18th of June a portion of the meat was fried for some workmen, and the day after another portion was cooked for the servants and master of the castle. Almost all the persons who partook of the food were taken ill in from four to twenty-four hours, manifesting symptoms of violent colicky pains, with vomiting and diarrhœa. A surgeon was called, and declared that it was cholera. He dined at the castle, ate of the cow, and the day after was seized with the same symptoms as his patients. On the evening of the 21st of June Dr. Rehfeldt, of Prenzlau, was summoned to attend the sick people at the castle; they were forty in number, all having eaten of the cow. They all showed the same symptoms—abundant diarrhœa, yellow and watery stools, burning sensation in the stomach, intense suffering, insatiable thirst, vertigo, cephalalgia, excessive debility, almost amounting to paralysis, pale cold face, sunken eyes, hollow cheeks, small and accelerated pulse.

"Careful investigation brought to light that none but the individuals that had partaken of the meat were ill, and no analogous affection existed about the country. It was also seen that the intensity of the symptoms in each case was in proportion to the quantity of meat that had been eaten, and the individuals that were most ill had eaten of it two days running. In no case had the first symptoms occurred in less than from four to six hours after the unwholesome meat had been swallowed, and some individuals were only attacked after thirty or forty hours. The kind of poisoning in these cases was not the result of direct action on the digestive organs, inasmuch as nothing indicated an inflammatory state of these organs. Pressure on the abdomen gave rise to no pain, not even when the colicky symptoms were at their highest. All the circumstances indicated the introduction of a poison into the blood, and this poisonous principle existed in the flesh of the cow. Suspicion fell on the kitchen utensils, but it was found that the meat had been cooked in very different ways, and the meat itself must have been possessed of noxious properties. Five persons fell ill in a dairy where some of the raw meat had been sent. One of these, a woman, suffering from chronic disease, died.

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* See *Annuaire de Litterature Medicale Etrangere pour* 1857. Par M. L. Noirot. Paris, 1857. Also *Medicinische Zeitung*, No. 43, 1856.

"The generative organs of the cow could not be found. The chemical analysis of the flesh gave no result. It is probable that before the cow was slaughtered, gangrene of the uterus and a putrid puerperal fever had set in. Cooking had not destroyed its poisonous principle. This instance serves to show how dangerous it is to allow diseased animals to be sold to the butcher.

"On the 26th of June, with the exception of a woman, and another, a sickly old man, who died, all were restored to health; some, however, remained for a considerable time in an enfeebled state."

3rdly. Although the *most common form* of parturient fever in animals is known to occur in well-nourished cows that have had no difficulty in labor, still many cases, which have been set down as cases of metritis accompanied by putrid fever, and have been considered to arise from the absorption of putrefying elements from the genital organs, are similar to those conditions of the system in which there is danger of introduction of the arm in the vagina. The carcasses of the animals that have died from parturient fever, like those of animals dying from simple protracted labor, are poisonous, and induce interic disorders if eaten.

There is a very significant general fear of parturient cows being slaughtered as human food, which I have heard expressed by butchers; but I have known many cases in which such animals have been permitted to pass, and indeed know that parturient cows are killed like other diseased animals for human food, in England as well as Scotland. It is important to notice, that no person could tell the carcass of a cow that had died from parturient fever from that of animals even in health sometimes, and it is essential to inspect the cow, whilst being dressed by the butcher, to examine the internal organs.

In the above-mentioned article I remark, that we cannot deny a certain degree of resemblance between the effects of the element which proves irritating to the hand or arm of the physician-accoucher and the veterinary surgeon. No doubt there is great similarity in the condition of system attendant on protracted labor in the human female and our domestic quadrupeds. The similarity is probably quite as great as between some of the forms of fever attendant on parturition, and which are proved to be contagious. As regards the human being, it has also been demonstrated that there is some similarity between the cadaveric poison and the puerperal.

This class of poisons is not due to putrefaction, and I may conclude this section of this essay with another quotation from the paper on "Ecthyma Simplex." I then said, "It is my impression that putrefaction is entirely opposed to the development of the genuine cadaveric venom. We cannot understand a material difference between putrefactive change in the body of a man and the body of a horse, still we may dissect as many horses as we like, wounding ourselves each time, unless they be glandered, without suffering. Occasionally a dissection-wound procured in dividing the tissues of an ass or horse may suppurate, but we have observed that this results generally when peculiar circumstances, such as breathing foul atmosphere, &c., have seriously affected the system of the dissector. I would rather consider the mode of death as influenced by the physiological constitution of man and the lower animals in studying the cause of the development of a cadaveric venom in the human body. The intelligence and highly-developed nervous system of man completely excludes any chance of drawing an analogy between the conditions of death in man and the conditions of death in the lower animals. But apart from this, we find that the lower animals are very frequently—almost invariably for dissection—killed when enjoying constitutional vigor and health; but this is not the case in man; and we observe that the cadaveric venom is most severe from bodies of individuals that have died of constitutional diseases, and especially *from females that have fallen victims to puerperal fever*. Death in man is preceded by morbid changes; it follows an *exhausting process*, both *mental and constitutional*. It has yet to be discovered what influence this bears on the tissues so as to render them in some way different from the structures of animals that have died tranquilly, without previous nervous excitement or prostrating diseased action."

II. ANIMAL POISONS WELL KNOWN FROM THEIR EFFECTS IN INDUCING SPECIFIC CONTAGIOUS DISEASES.—At the head of this class we have the anthrax poison; and a few remarks on anthrax in animals may not be inappropriate. It is an enzootic disease peculiar to many districts in different countries of the world. Though thus springing in special localities, it may, and does, rage as an epizootic. The causes essential for its production are the plethoric state and heat. The warmer the climate, the more common and deadly is anthrax; and there are countries, such as our own, where the disease is seen, but is rarely attended with the development of the anthrax poison. Thus the braxy in sheep is the same disease as the *miltzbrand* of the Germans, and the *fièvre carbonculaire* of the French. It renders the flesh of these animals poisonous in warm countries; in our Scottish hills braxy hams have been eaten with impunity from time immemorial. Again, the black quarter, quarter evil, quarter garget, black leg of many parts of the United Kingdom, is the malignant anthrax of France, Germany, Italy, and many other warmer countries than ours. I state this from personal observation; and remember specially seeing a young bullock carted into the Ferrara slaughter-house to be dressed and sold, condemned by Professor Maffei, and buried. The animal died from what we know here by the many names mentioned above. A jobber disinterred the carcass at night-time, and transferred the flesh in sacks, which he carried on his back a distance of a few hundred yards to a hiding-place. Next day this man was seized with gangrenous erysipelas of the back, and died in three days. This occurred in the hot summer of 1854.

It is the terrible virulence of the anthrax poison abroad that has led to the excellent organization of the slaughter-houses everywhere to be found, and to the appointment of qualified professional inspectors.

The cases of communication of malignant anthrax from animals to man are so numerous, that it is almost impossible to refer to the whole, or even to a large proportion of them, in this paper. There are, doubtless, numerous cases of this description that have occurred in this country, but they are not recorded, and have often been ill-observed, or not traced to their true cause. I have evidence of two well-marked instances in which serious disease and deaths in families have occurred in Aberdeenshire. The one case was reported to me by Dr. Keith, of Aberdeen, in 1856, and the other was mentioned to me by one of my students, Mr. John Morris, of Aberdeen. I have been informed by a most intelligent dairyman, that, several years ago, in a village in Dumfries-shire, a calf was slaughtered suffering from quarter-ill. It was eaten, and many persons suffered very severely—some died. These cases demonstrate that occasionally the anthrax poison is developed as far north as Scotland. It is doubtlessly more frequently produced in England; and on the occasion of my examining an aged cow that was slaughtered from an attack of black-quarter—in London, in 1851, I was told that accidents had been repeatedly observed amongst butchers from dressing such carcasses. One man had lost his arm; another had to suffer amputation of the hand, and various other cases were alluded to. Dr. Headlam Greenhow, in a "Report on Murrain in Horned Cattle," published in 1857, says that carbuncular murrain is happily unknown in this country. This is not the fact, as occasional outbreaks of glossanthrax have occurred, and I have already stated that the great difference between carbuncular disease here, and in warmer climates, is the more constant development of an active anthrax poison in the latter. I think there cannot be a doubt as to the injurious results of eating flesh of animals that have died of carbuncular fever, and contradictory opinions are based on observations of cases of unequal severity, occurring in different localities, and on the protecting influence of cooking, which destroys the potency of the virus.

Hübner* furnishes us with the symptoms preceding the death of two dogs that died from eating the flesh of a sheep affected with anthrax. The brain was affected, and symptoms of stupor appeared. This author alludes to a shepherd who found a dead raven lying by the carcass of a sheep that had died of anthrax, and had been apparently poisoned by eating the flesh. Dr. Vix, in a note appended to Hübner's paper, says: "Three years ago (1839) I performed a post-mortem examination of an ox that had died of anthrax; my dog licked some of the blood that had flown on the ground, and in the course of twelve hours gangrenous pustules appeared in the mouth, the head became much swollen, and the animal was only saved by great care."

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* *Zoitschrift fur die gesammte Theirheilkunde*, 1842.

Dr. Schwab, of Munich,* recorded a case in which eight families suffered from eating the flesh of a calf that had died of carbuncular fever; three deaths occurred. Coste mentions in *Omodei's Annali Universali*, for 1844, that many persons were attacked with a nervous fever from eating parts of a cow that had succumbed to anthrax. Renault observed in the department of the Nievre, in 1846, a case in which a man suffered from malignant pustule, from being stung by a fly, whilst standing near the carcass of an animal that had died of anthrax, and another individual died of the disease after skinning an ox. Mangin, in 1847, refers to pigs and dogs dying from eating the flesh of cattle that have been lost from anthrax.

In the *Lyons Veterinary Journal* for 1850, a very singular case is recorded. A cow died of carbuncular fever, and its flesh was given to several women, who cooked and ate it. Two of these persons became affected several days after with pustules on their arms, and all showed signs of malignant anthrax. One woman died at the end of a week, and the others later.

Bearing on my remark, that heat is essential to the full development of the anthrax poison, is an interesting observation by Luscan.† At a meeting of the Societe Veterinaire de Lot et Garonne, this gentleman said that he seized the opportunity to draw attention to the fact that a high temperature increased the severity of anthrax. Thus he had seen dogs eating with impunity the flesh of oxen that had died of the disease in spring and in autumn, whereas others died after eating such flesh in the hot months of summer. In commenting on this, Lafosse wrote: "Here are facts which, added to the observations made by Bertin at the Guadeloupe, and to those already very numerons and reputed in the annals of science, demonstrate how much circumspection should be used before declaring in favor or against the innocuous nature of the flesh of animals dying from carbuncular fever." M. Pradel de Castres, in a report to the Prefect of Tarn, states that dogs and magpies died after having eaten of carcasses of cattle that had perished from this disease. In the same journal from which I have made these quotations, Causse, veterinary surgeon at Castlenaudary, records two very severe cases of malignant pustule in man, from the individuals skinning an ox which had died of anthrax. Gerlach records a case in 1852 of a man dying from eating such flesh. The same author, in his observations on Prussian veterinary practice for 1854, says that about fifty persons had suffered during the year from the communication of anthrax by eating the flesh of diseased animals; six of them died. Eleven pigs and two dogs succumbed after devouring similar meat. A very remarkable instance is recorded in the *Gazette Medical de Lyon* for the same year. A cow died of carbuncular fever, and thirty-six persons ate her flesh. Twelve of these died, and the others recovered under careful treatment.

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* *Eininge falle von Anthrax vergiftung*, 1844.

† *Journal des Veterinaires du Midi*, 1852.

The cases I have here quoted are in addition to many you will find in Heusinger, Delafond, and in the works of other authors on malignant pustule. It is difficult to say if splenic apoplexy may not occasionally assume all the virulence and characters of anthrax. Thus, in the last number of the *Edinburgh Veterinary Review*, it will be found that Mr. Aris, of Wellingborough, Northamptonshire, states that pigs have died from eating the offal of cattle that have succumbed in his district from splenic apoplexy.

I shall conclude my remarks on the use of the flesh of animals that have died of anthrax by the following statement:

1stly, The malady described by Continental authors as anthrax or carbuncular fever, and which attacks man and all-warm-blooded animals, occurs in Great Britain.

2ndly, The anthrax poison induces malignant pustule in man, but with a very different degree of severity in different cases. A certain temperature is essential for the development of this poison, and from this circumstance it only occasionally manifests its virulent properties in this country. This poison may act with great violence on the unabraded skin, or on being introduced into the blood by a wound, or into the stomach, especially if the flesh be raw.

3dly, The disease in man, produced by eating the flesh, may sometimes be a diarrhœa, but more frequently a form of putrid fever, with malignant pustules on different parts of the body.

4thly, The post-mortem appearance of animals that have died of this disease are often localized in one quarter of the carcass, which may be removed, and the other quarters sold, much to the danger of human life. This indicates how necessary it is to have professional inspectors to slaughter-houses.

MILK OF COWS THAT HAVE DIED OF ANTHRAX.—Delafond says that whenever he has examined the milk of cows with carbuncular fever, it has possessed a nauseous odor, a dirty-white color, and decomposed rapidly. The slightest elevation of temperature led to curdling of the casein; allowing it to rest for six hours, red streaks appear, owing to the coloring matter of blood. One of the most remarkable facts concerning the unwholesome quality of the milk is recorded by Dr. Chisholm. It occurred in 1795, in the island of Barbadoes, in the family of a Mr. Commin, a planter, whose daughter drank the milk of a cow suffering from anthrax, and had a severe attack of the disease, which nearly terminated fatally. Gohier witnessed at Tramis the ill effects of such milk on a man who was attacked with severe diarrhœa, associated with great weakness. In 1809, five persons in one family suffered from diseased goat's milk. Calves take the disease by sucking their dams, (Desplas,) though it has been stated that an infant has been known to drink the milk with impunity. This discrepancy is accounted for by the irregularity in the development and virulence of the poison. Metzger, Lappe, Heusinger, Spinola, and Virchow assert that the milk is often poisonous and always attended with great danger if swallowed by human beings.

Contagious Typhoid Fever Poison.—This malady, the Steppe disease of Rinderpest, the cattle plague, which develops spontaneously only in Southern Russia and Siberia, spreads alone by contagion westward. It is probably the most exclusively and actively contagious disease affecting any animal; but it appears certain that the flesh is not rendered poisonous, and that human beings can eat it with impunity. The most remarkable fact connected with the disease is, that dogs having devoured the flesh of oxen dying of this enteric fever, have communicated the disease to otherwise uninfected districts. Sheep, who are not subject to the malady, are capable of carrying the contagion, and the same may be said of horses, pigs, cats, etc. The milk, and the butter made from the milk, have produced alarming symptoms in human beings and dogs.

The produce of cattle dying from the cattle plague is condemned as unmarketable, from the great facility with which the malady is propagated. The virus is so indestructible, that there are well-attested facts to prove that opening the graves of animals slaughtered years before for the contagious fever, has led to a fearful outbreak of this terrible disease. It cannot reach our country, from the limitation to its spread received by the vigilance of the Prussian and Austrian Governments. British observers witnessed this disease during the Crimean war.

Eruptive Fever Poisons.—The only malady that I need refer to under this head is the epizootic aphtha, or vesicular murrain. It is also called eczema epizootica. Foot and mouth disease, *maul u. klauenseuche* by the Germans, *la cocotte* by the French.

I need not detain you by observations on the flesh, which is deteriorated from the circumstance that animals rarely die from epizootic aphtha, unless from the violence of an irritative fever, which occasionally assumes a typhus character, as in other instances of disease attended with the presence of a blood-poison, and from emaciation and hectic. The last that I dissected was that of a yearling in a state of extreme emaciation, and it died from inanition, owing to inability to eat from extreme soreness of the mouth. The animal had not been treated, and had proper care been used to feed it on gruel and other sloppy diet, it would certainly have lived.

The milk secreted by cows suffering from epizootic aphtha varies in quality and quantity at different stages of the disorder. During the early period of the eruption the secretion is unaffected, but when the vesicles are developed on the teats, they burst in the act of milking, and the virus falls in the milk. The pain attending milking at this stage prevents the removal of all the milk secreted, and from the teats ulcerating, and the ducts being obstructed, attacks of mammitis are very common. Milk from cows suffering from this disease usually contains much pus.

There are abundant facts to demonstrate the injurious influence of such milk on human beings or animals drinking it. From my personal observations, I can state that calves die from acute laryngo-pharyngitis, and intestinal irritation, with marked emaciation. Pigs are readily affected, manifesting similar symptoms.

An exhaustive summary of the information published on the poisonous nature of milk in epizootic aphtha is furnished in an inaugural dissertation by Dr. Nauhiemer, (Giessen, 1860.) Sagar observed, during an attack of the disease in Moravia, (1764,) that the milk of cows induced the malady in man and animals. Similar observations were made in the vicinity of Lyons in 1811. Toggia's observations in Italy in 1818, and Mathieu's in France, led them to regard the product as innocuous. Jacob mentions a number of cases in which persons drinking largely of milk suffered severely when the malady was in the vicinity of Bâle in 1839. Jacob himself drank two large tumblers of warm milk from a cow that had sore teats and feet for five days. The following two days he took one tumbler each day, and this was immediately followed by headache, weakness in the limbs, and feverish symptoms. The mouth was hot, and there was itchiness of the skin in various parts. The symptoms lasted two days. He again drank of such milk for two days, and suffered from painful swelling of the mouth, vesicular eruption within it, as well as on the chest. The vesicles on the latter were hard and irritable. Those in the mouth broke, the epithelium fell off, and the parts healed. All symptoms disappeared in eight or ten days. Jacob saw similar attacks in a number of persons, but the severity depended on the intensity of the attack in the cows. Hertwig and two friends drank a quart of fresh milk from an affected cow. On the second day fever, tremors, headache, hot and dry mouth, and itchiness in the hands and fingers, supervened. By the fifth day the mouth became swollen, vesicles formed within it, and gave great inconvenience. Similar eruptions occurred in the hands and fingers, and symptoms disappeared on the tenth day. Lowak (1845) has recorded similar results from the use of such milk.

I shall not detain you by observations of Herberger, Hering, Falke, Krügelstein, Donné, Spinola, and others, and I may draw from my own and recorded experience the following conclusions:

1stly, That epizootic aphtha—a disease scarcely ever out of Britain since 1839—is due to the development of a specific poison capable of inducing the symptoms of the disease in man, and apparently in all warm-blooded animals.

2ndly, From the frequent deaths in calves and young pigs, I am led to the conclusion that the young are more liable to suffer severely, and it is only in early age that there is danger to life.

3rdly, The human subject is preserved from attacks of this contagious aphtha from the milk being taken some time after it is drawn, and in small quantities; occasionally, when it is boiled; and almost invariably, diluted. If the milk is swallowed pure and fresh, it communicates the disease, which is entirely similar in man and animals. The similarity extends even to the implication of the extremities, as shown by the eruption of the hands and fingers in man, as on the feet of animals.

I think it is desirable that attention be paid to this disorder by medical men. I am inclined to attribute the poisonous nature of the milk entirely to the admixture of the virus from the vesicles on the teats with the milk when drawn. The period of incubation of the disease is very short, and dairies might easily be kept clear, if it were insisted that newly bought animals should be kept separate for three or four days, that they should always be milked last, and the hands of the person who milks washed immediately after; chlorine water should be applied to the teats, and especially to the vesicles when opened. There is no doubt a remarkable scarcity of general facts indicating the dangerous nature of this milk, but perhaps this may be due to the fact that infants suffer, and any ill effects may be attributed to ordinary eruptions so commonly seen during the period of suckling.

VALORIUS FEVER POISON.—No fact is better known than that man is attacked with symptoms of cow-pox from contact with the poison of this disease, but there is no danger to be apprehended—rather the reverse.

The flesh of sheep that have died of small-pox, though seriously deteriorated, is not poisonous. Its sale is condemned by Delafond, as any such trade favors the extension of disease.—*Amer. Med. Monthly.*

[From the American Medical Times.]

Foreign Correspondence. By Professor CHARLES A. LEE.

COLONY OF FITZ-JAMES.

CLERMONT, DEPARTMENT OF OISE, FRANCE,
August 21, 1862.

This beautiful village is situated some fifty miles north of Paris, in the Department of Oise, in one of the finest and most productive agricultural regions of France. It is now in the midst of the wheat harvest, and more than one-half of the whole territory between this and Paris is covered with one of the heaviest crops of this cereal ever known in the kingdom. It is also a very fruitful wine-growing region, some of the finest champagne being produced in this vicinity.

My object in visiting this place has been to examine the private insane asylum of the brothers Labitte, and the famous "Colony of Fitz-James" connected with it. The private asylum was founded some thirty years ago, by the father of the present proprietors, but the "Colony" dates only from the year 1847. As it is the only institution of the kind in France, and established, as it seems to me, on a correct principle, namely, that employment, and especially *agricultural labor*, is not only one of the most successful modes of treatment of the insane, but also the most advantageous in an economical point of view, I trust that some account of the establishment may prove acceptable to your readers. In the year above named, the institution was organized by one of the brothers taking the general charge or superintendence; another took charge of the agricultural department; a third of the medical treatment of the males; while Dr. Woillez attended to the medical management of the females. This arrangement continued until 1850, when Dr. Gustavus Labitte assumed the entire management, aided by Dr. Pain, an adjunct physician, two internes, or house-physicians, and an apothecary. At first, about ninety acres of land were cultivated in the immediate neighborhood of the asylum, on the border of the village. They soon, however, perceived that it would be more advantageous to have the farm at a greater distance from the asylum, so that the laboring class of patients would have no intercourse with the others, and their employment be better regulated.

To carry out this plan another large farm, of nearly five hundred acres, was purchased, about three-quarters of a mile from the village, but adjoining that already under cultivation; pleasantly located, perfectly healthy, and easy of access. To this farm forty strong and quiet male patients were removed, and this may be said to have been the commencement of the colony. The results of this experiment far exceeded the expectations of the proprietors, and very soon other buildings were found necessary to accommodate the increasing number of inmates. Improvements and additions have from time to time been made, till now a most complete and extensive establishment has been created, the entire means having been derived from the profits of the system of organized labor. For the last four years, during which the system has been fully and completely carried out, the most remarkable success has been witnessed; in all curable cases the most prompt amelioration has been observed; those who appeared indocile, untractable, and unable to perform any serviceable labor, have been found perfectly manageable and docile, and their mental restoration kept pace with the improvement in their bodily health, proving that agricultural labor is the true Hygeian fount. Male patients are transferred from the asylum to the colony, according to their condition, and if necessary, they are retransferred to the asylum, an event which rarely happens. This employment in the open air, in such kind of agricultural labor as seems best suited to the general strength and adaptation of the patient, *solves at last the restraint* or *non-restraint problem*, and shows conclusively that if there is a proper channel in which muscular and nervous energy may be exerted (and this is found to be the true one), it will not break out into anomalous, irregular, and violent manifestations. This is the channel originally opened by Omnipotent Wisdom for the disordered race of fallen man. The idea of constraint and confinement does not even enter the mind of these apparently happy and contented laborers. They mingle freely in each other's society, they enjoy the largest liberty, they talk, laugh, joke, in short, they act like other human beings, and as they would *not* act, if they were shut up in dark, padded rooms, confined by strait-jackets, strapped to their chairs, lashed to their beds, or held by their attendants. As I entered the main building, a smart rain drove a large number of the patients inside the walls for shelter, and I saw nothing in their looks or actions which distinguished them from the ordinary class of French peasants. They all had a cheerful, healthy look, and their conduct was every way proper. Who will not exclaim with me, as I left the place: Surely, every lunatic asylum should have its AGRICULTURAL COLONY? There may be difficulties in aristocratic communities, like those of England and our Southern States, where labor is deemed disgraceful, and idleness or amusements only honored; in such countries, where the wealthy madman is considered far better than the poor plebeian insane, and companionship with a humbler class something contaminating and degrading, we can hardly expect this system to be fully adopted, if attempted at all. Hence, in the private lunatic asylums of Great Britain we see nothing of the sort; the spade, the hoe and the shovel, the rake, the scythe, and the sickle, are strangers to such establishments; and if the camerrole, the handcuff, the strap, and the manacle are equally rare, there is the dark padded room, which restrains the whole body, if it leaves the hands and the legs free; and I have known patients in such establishments remain thus secluded and confined for days, months, and in one instance a year, without any human society whatever, who, I have no doubt, would have been speedily restored to health, mental and bodily, if subjected to the exercise, orderly discipline, and hygienic influence of systematized agricultural employment. And this is dignified by the appellation of the *no-restraint system.*

This "Colony of Fitz-James" is so called from a village of the same name, and is about a mile and three-quarters from Clermont, in the beautiful valley of the Breche, which is here from ten to fifteen miles wide. About thirty-five acres are surrounded by the river Beronnelle and a wall, so that if any of the patients had a desire to escape, which rarely if ever happens, it would be found somewhat difficult; the greater part of the farm, however, is without any inclosure. The colony is divided into four sections, each perfectly distinct from the other, and having its particular destination. The *first section,* that of direction or superintendence, is occupied by the dwellings of the director and male pay patients. The *second* is the *farm* proper, where the colonists reside. The *third,* that of the *small chateau,* is devoted to the female pay patients; while the *fourth,* the sectien of *Becrel,* is occupied by the females employed in washing, and laundry. The total number of patients belonging to all the sections is 306. The *first section,* as I have stated, that of *direction,* comprises a dwelling of two stories, occupied by the director and the pay patients, and commands a view, on one side of the farm and its dependencies, situated at the extremity of an extensive lawn, traversed by the river Beronnelle, near the village of Clermont and the valley of the Breche. On the opposite side, adjoining the meadow, is the *Becrel section* and the village of Fitz-James. The part of the dwelling devoted to the boarders, consists of a basement divided into billiard, sitting, and dining rooms, apartments for the overseer or superintendent, a saloon, which serves as a parlor, etc. On the second floor are twenty rooms for males. The patients who occupy this section are tranquil incurables and convalescents.

2. The *Second Section* comprises the farm-buildings and the dwellings of the colonists. The latter is entirely separated from the farms, and has a view on one side of the village of Clermont, the section of superintendence, and the valley of the Breche; and on the other, of the cultivated fields belonging to the farms. The ground floor is occupied by ample apartments for the physician, the kitchen and day-rooms; the second and third stories are divided into five extensive dormitories. This building has a spacious court, planted with trees and flowers, with a grass-plot in the center. The farm buildings cover about five acres. There are extensive stables, in which I counted near thirty white farm horses of the large Boulognais breed; a large barn containing threshing and other agricultural machines, a mill for grinding wheat, etc., all operated by steam power; extensive and well-arranged buildings for cattle, sheep, and swine, of which large numbers of the best breeds are always kept. For example, I counted forty-two very large and beautiful cows, a cross between the Durham and Flemish, famous for dairy purposes; about one hundred swine of the Berkshire and Suffolk breed, some from the late Prince Consort's model farm at Windsor, many of which had taken the first premium at different agricultural fairs in France. There are also well-constructed abattoirs or slaughter-houses, in which I noticed two slaughtered fat oxen, six sheep, and two calves, which I was told was the daily allowance for the inhabitants of the asylum and colony. In the winter, swine are substituted for calves. These, with the extensive sheds for carriages, carts, agricultural instruments, tools, etc., make up the principal buildings. A Swiss cottage on the Beronnelle creek contains a hydraulic dam which distributes water over the farm for purposes of irrigation, and also carries a mill for making cider; near the engine-room are two extensive and well-arranged bathing-rooms, with every convenience found in such establishments. I also visited wine and cider vaults, containing immense pipes, each holding many hogsheads of cider made on the premises. A liberal allowance of both these beverages, Dr. A. Labitte informed me, was allowed to the patients.

The section of the *Small Chateau*, appropriated to female pay patients, is a country house situated at the extremity of the inclosure of the Colony bordering on the village of Fitz-James, and separated from the farm meadows by the small river Beronnelle. It commands a distant view of the farm, and the section of the superintendent. This section occupies about fifteen acres, which are appropriated to a lawn and park. The main building consists of a ground floor, containing a dining hall, a saloon, and three rooms for the overseer; while the second floor is divided into five apartments. Adjoining this building is a wing containing the kitchen, bathing-rooms, wood-house, etc. The *Section Becrel* is also situated at the extremity of the inclosure of the colony, and commands a view of the section of the *Small Chateau*, the farm, and the sides of the valley of the Breche. It is now occupied by one hundred and seven females, who are all occupied in laundry, both for the asylum and the colony. It comprises buildings for the patients and the laundry; the former consisting of a ground floor divided into apartments for the superintendent, a promenade, a refectory for eighty-seven indigent patients, a saloon and dining-rooms for twenty pay patients, and a second story divided into three dormitories. The buildings devoted to the laundry are opposite the first, and are composed on the ground floor of a folding clothes room, two rooms for depositing foul clothes, a bathing-room, a wash-room, etc. The wash-room is so constructed that a branch of the Beronnelle flows through it, thus constantly renewing the water in the reservoir, around which the washing is carried on, on the smooth slab inclining inwards, the females standing at their work. In drying, the clothes are first exposed to hot air, and afterwards to the open air. The buildings above named surround an open green-sodded court, planted with trees and flowers, and embracing two and a half acres.

In regard to the administrative and religious organization of the Colony, which is under the exclusive control of M. Auguste Labitte, it is of course dependent on that of the Clermont Asylum. M. Alexandre Labitte is the sub-director, having charge of the administrative service and the agricultural department. Under him is one responsible employé, a superintendent of the sections of the pay patients and the farm, a superintendent of the section of the Small Chateau, and one for that of Becrel; in short, all the personnel of the Colony, which is composed of thirty-two men and thirteen women, thus classified:—8 domestics for the service of the section of direction for the farm; 7 conductors of detachments; 4 gardeners or keepers; 7 carmen or drivers; 2 cowherds; 1 shepherd, 1 miller, 1 butcher, 1 chief mechanic, 1 cook.

For the Section of the Small Chateau, four domestics are employed; *for that of Becrel*, 3 guardians or keepers, and 5 superintendents of the workshops. The Curate of Fitz-James is the chaplain of the Colony. Both male and female patien's attend religious service at the village church, there being no chapel connected with the establishment: a want which will doubtless be sooner or later supplied.

An internal, or house-physician, resides at the Colony, and sees to the carrying out the medical prescriptions. The physician-in-chief makes a visit of two hours in the middle of the day. He orders all the changes or transfers from the asylum at Clermont to the Colony, and *vice versa;* he prescribes the kind of labor for each patient; in fine, the whole moral and disciplinary management of the entire Colony. As changes are constantly occurring in the mental condition and bodily health of the patients, so these transfers are correspondingly frequent, and the Colony is thus complementary to the asylum, whose inmates are always so numerous (now reaching over 1000) that those displacements can always be made without injury to the general organization. When a colonist is afflicted by a return of his disease, or an exacerbation, which requires special treatment and surveillance, he is immediately re-transferred to the asylum at Clermont. The Colony is thus only the rendezvous of the strong and docile, who quietly submit to the ordered regularity of the service.

The medical end in view is to surround the insane, as far as possible, with the customs and habits of social life; life in common, occupations always useful, liberty wisely restrained. All these circumstances must necessarily introduce among the colonists friendly and reciprocal relations, interest them in their labors, and inspire them with sentiments of personal consideration, which lead them to appreciate services of which they are capable, and banish from their minds every idea of seclusion and restraint. No physical restraints are permitted; every intractable patient is immediately sent back to the asylum; and this transfer is a punishment which they greatly dread, and of course seek to avoid.

Dawn of Animal Life.

A late number of the Westminster Review contains under this title a review of the recent researches by Greene, Claparede, Lachmann, Williamson, Carpenter, and Jukes, into the structure and development of the protozoa, and the astounding part which these little and otherwise insignificant animals appear to have played, in periods of inconceivable remoteness, as the engineers to whom was intrusted the construction of much of the crust of the globe which we inhabit. And even in the present day they are still at work, forming, at a depth of 2,000 fathoms, the bed of the ocean between Europe and North America, and by throwing up sandbanks, as they are termed, blocking up harbors, changing the course and depth of straits and channels, silently working out what may ultimately become a serious revolution in the apparent destiny of commercial emporia. Tracing the structure of these creatures from their most primitive form in the *Rhizopoda reticulata*, with its simple plastic body substance, or "sarcode," throwing out filaments, which it can again withdraw, and the shell bearing forms or foraminifera, "tens of thousands of which may be contained in a pill-box," while others, as the fossil nummulites, are two or three inches in diameter, through their several forms and orders—the author passes to the consideration of that of the sponges. From this he passes on to the infusoria, the lowest animals provided with a mouth. Not only are these three groups of protozoa so connected by intermediate forms, as in structure and modes of reproduction insensibly to glide one into another, but it is pointed out that, among the foraminifera, so infinitely diversified are the individual forms that classification into distinct species is almost set at defiance, Dr. Williamson remarking that "examples abound which we are unable to locate with confidence, and we are at length tempted to believe that amongst the foraminifera specific distinctions have no existence. . . . Nearly every species is capable of adapting itself with endless modifications of form and structure to very different habitats, in brackish and in salt water, in the several zones of shallow and abyssal seas, and under every climate from the poles to the equator." And as these specific differences are so undefined among animals of this lowest type of animal life, so are naturalists still at loss to draw the line which shall mark off these from vegetable organisms—as much at a loss now, when research has been pushed so far on the confines of both kingdoms, as they were when rougher modes of investigation were alone had recourse to. An interesting illustration of the difficulty is met with in comparing the modes of reproduction of admitted animals and admitted vegetable growths. Thus, in the sponges, not only is there met with reproduction by gemmation, but in the Spongilla reproductive seed-like bodies have been discovered, and in the Tethya true germ-cells or ova and spermatozoa in every stage of development. On the other hand, in many cryptogamic plants, especially in the algæ, are there found zoospores or spermatozoids, which endowed with independent motion appear to perform an office identical with that of animal spermatozoa. In some algæ they thus enter a pistil-like organ, the sporangia, evidently for the purpose of fecundation. When, while swimming about, they approach the sporangia, they are said to make straight for it as though gifted with volition, and if they fail to enter it at once they repeat the effort. The general result of the inquiries of the naturalist mentioned, is not only to show the importance of the protozoa in the scheme of our mundane universe, but they bring out the interesting truth that there are animals constituted by an almost homogeneous gelatinous substance, in which this substance subserves all the purposes to which special structures are devoted in animals higher (as we term them) in the scale of organization, but while "higher," far less numerous, and apparently far less stupendous as to the work which they accomplish. In these lowest animals the same gelatinous material subserves at once the functions of nutrition, circulation, respiration, and generation. "In the absence of muscular fibres all the protozoa possess the power of extension and contractility; and, notwithstanding the absence of nervous fibres, they clearly evince in their actions the existence of sensation and volition, and appear susceptible of sensitive impressions. With the naked infusoria the sense of touch exists, undoubtedly, over the whole body. But, besides this, it appears specially developed in many species in the long ciliæ, forming vibratile circles, or in those movable foot-like and snout-like prolongations of the body. In the same manner, it is probable that they have the sense of taste also; for they seem to exercise a choice in their food, although no gustatory organ has yet been found. All species, whether they have red pigment points or not, seem affected by light. Without doubt, therefore, their vision consists simply in discriminating light from darkness, which is accomplished by the general surface of the body, and without the aid of a special optical organ. . . . The way in which the Rhizopoda seize their prey certainly *seems* to indicate the presence of distinct volition; but it is probable that the phenomena observable are manifestations only of unconscious 'reflex action.'"—*Med. Times and Gaz.*, Aug. 2, 1862.

Inspection of Hospitals.

[From the Boston Medical and Surgical Journal.]

Mr. Editor,—Every thing pertaining to hospitals is now exciting much attention. The inspection of hospitals of the army, undertaken by the Sanitary Commission, is an admirable conception, and I doubt not will be productive of satisfactory results. Having given much attention to the subject in general, and thinking, some time since, that it was desirable we should have more particular information about certain hospitals, so as to make a more correct estimate of the causes of the greater mortality in one than in another, and to arrive at the most truly economic way of building and managing hospitals, I drew up a formula, or list of memoranda, comprising those things which I thought worthy and desirable of notice in describing any particular one. I here offer this to you for publication. As you see, it is made to embrace every department—topographical, constructional, &c., down to the economic and pecuniary. I do not suppose it is perfect, and should therefore like to have any suggestions of points that I have omitted.

TOPOGRAPHY.

Elevation—Relative to water surfaces; relative to surrounding country.
Character of surrounding country; of soil.
Proximity to Water—Sea, lake, or river; fresh or salt; tidal?—if so, surface laid bare at ebb—gravel or mud.
Amount of foliage or herbage in the neighborhood.
Any factories; tanneries; slaughter-houses; gas, chemical, or kerosene works?
What grounds are around the building for the use of the patients?

METEOROLOGICAL POINTS.

Temperature—Minimum; maximum; mean.

Hygrometry—Dry or moist.

Prevailing Winds—Cold or warm; dry or moist.

Is the building sheltered from them? By what? high land, foliage or houses?

CONSTRUCTION OF BUILDING.

General Shape and Arrangement—Square; oblong; hollow square; pavilion (how arranged).

Size; material; thickness of walls (solid or hollow); number of stories; cellarage; out-houses.

General Internal Plan—How divided; size of wards—height.

Do the wards run all across the building, so as to have sunlight on each side and through ventilation?

Interior Finish—Wood, bare or painted.

Plaster—smooth or rough finish, bare or painted; on the wall itself or on furring.

Floors—hard or soft wood, bare, painted, or covered.

How is the building heated?—Lighted (artificial light)?—Ventilated?—Drained?

Privies and Water-closets—On what plan? Where placed? Bedside conveniences for patients.

Supply of Water—Kind (limestone, river, well, &c.); hard; soft.

Number of Beds; material and kind of cot; material of mattrass

Any thing else of notice about beds or their arrangement; number of cubic feet to each.

Number of admissions; of beds on average full; of deaths; of discharges—relieved, cured.

Average stay of patient.

Any endemics; any epidemics.

Food—Kind; quantity (sufficient and obtained in good condition); how cooked.

FOUNDATION AND MEANS OF SUPPORT OF THE HOSPITAL.

Endowed—By Government; by private individuals; supported by subscription; by receipts from patients.

GOVERNMENT.

Governor or Trustees—How appointed.

Professional Force—Physicians; Surgeons; paid or unpaid. Steward; matron.

Nurses—male; female.

Laundresses; cooks and other helps.

EXPENDITURES.

Original Cost of Hospital—Ground; building; fittings.

Annual Cost—Physician and Surgeon. Steward and matron. Nurses and other helps.

Food; medicine; fuel; light; other expenses.

Cost of each patient per week—For food; for medicine.

Whole average cost of patient.

It is also desirable, if possible, that a ground plat of the house, grounds and surroundings, within a radius of an eighth of a mile, should be given. As a general thing, this can be done with little trouble, and sufficiently accurate for all useful purposes, after a little practice. The eye can measure distances nearly enough, or they can be paced off. It must not be forgotten to designate on this plat, the cardinal points—an important item, often omitted.

WM. ED. COALE, M.D.

4 Staniford St., Oct. 10th, 1862.

Clinical Lecture on Scirrous Cancer of the Breast. By JAMES PAGET, F. R. C. S.

The present lecture was devoted to the consideration of the reasons for operating in mammary cancer, and the grounds on which to select appropriate cases.

Mr. Paget remarked that some recommend operation in nearly every case, and some will operate in none. Both have some truth in their arguments, both have much that is good in their practice, but it is possible to obtain the good of both sides without adopting the too general rule of either. There can be no doubt that the greatest measure of good may be done by making a careful selection of cases fit for operation and rejecting all the rest.

It is necessary to consider first what are the objections to the operation, and to—

1. The excision of the breast. They are chiefly, and almost alone, that the patient may die in consequence of it. Mr. Paget believed that in any large number of cases, even of those selected with some care, it may be feared that one patient in every ten will thus die, of pyæmia, or erysipelas, or tetanus, or secondary hemorrhage, or some calamity following the operation. And this must be no trivial consideration, for in every such case the operation destroys in a week or two a life which, but for it, might have lasted as many years.

Nor, according to some is this all: for it is said that when the disease returns after operation it makes so much more rapid progress than if it had been left alone, that the operation shortens the lives of even those whom it does not kill outright. It cannot, perhaps, be denied that this may be true of some cases in the selection of which no judgment is exercised; but, on the whole, taking the results of some hundreds of cases, it is certain that the average duration of life in those operated on is not less than in those in whom the disease runs its course: rather, in well selected cases it will be found always greater. In a recent tabulation of hospital and private cases, 85 cases operated on lived an average of 55·6 months, and 62 cases not operated on lived an average of 43 months. And some such proportion as this will probably be always found.

It has been objected, too, that the recurrent disease, even if not more rapidly fatal than the uninterrupted disease would be, is more painful. But this is certainly not generally true. In very many cases—in the large majority—the recurrent disease is much less severe than the continued disease would, in the same time, have become; it is only in a very few that we can fairly expect it to be worse. It can scarcely be urged that the pain of the operation or of its consequences is an objection; for, with chloroform, the pain of the one is null, and, with simple dressing, that of the other is really trivial. It may, therefore, be safely held, that the only material objection (but it is a very serious one) to the operation is, that a patient runs a risk of one in ten of dying from it; in other words, it is only about nine to one that she will recover from the effects of the operation.

What, then, does the operation offer that can make it advisable for a patient to incur this risk of dying? Does it offer to any one a reasonable hope of an indefinite prolongation of life, and freedom from the same disease? No; the recurrence of cancer of the breast after operation may be held to be as certain as any thing in surgery. The question is thus narrowed; we must in every case expect the recurrence of disease; and this is likely to occur at such a time after the operation that, speaking generally, and on the average, the patient will not rarely die of cancer nearly as soon after the operation as if the disease had been left to its own course.

Can it, therefore, be reasonable to submit a patient to the risk of dying within a month, perhaps in a week, for the sake of that interval of health which will or may exist between the operation and the recurrence of the disease, and for a good probability of adding a year to life, and of having a less severe disease? The answer must depend, chiefly, on the probable length of this interval before the recurrence. The average is little more than thirteen months; more than one half return within twelve months; about two-fifths return within six months. Is this average worth the average risk of life? Consider, when no operation is performed, the pain and anxiety—the pain likely to increase daily—the misery of waking every day to the consciousness of an incurable disease; the sometimes loathsomeness; the restlessness for cure; —cure, such as there are never wanting dishonest men to promise. The average expectation of such relief seems worth the average risk, but not more. Look well, therefore, to the general condition of patients before deciding.

The average interval between the operation and the return of disease is, as has been said, about thirteen to fourteen months; but the extremes, between which the average is drawn, are very wide apart. In some cases the return may be within three months; in some not for ten, twelve, or more years.

It is, therefore, of great importance to be able to decide in what cases the risk of life is greater, and in what the probability of speedy return of the disease is greater, than the average.

For the first, there are no other rules for cancer than for other cases requiring large operations. These are some of the "doubly hazardous:" The old, after 60; the very large-breasted; the fat and plethoric; the cachectic; the overfed on animal food; the drunkards; the gouty; the habitually bronchitic; the albuminurious; the very dejected, not merely timid; and, in short, those with any organic disease of internal organs; and, after middle age, these increase very much in their proportion.

And for the probabilities of rapid recurrence, these are "bad cases:" Acute cancers, *i.e.*, all that have been rapid in progress; for those which increase very quickly before the operation, are certain to recur quickly after it. This, however, may be no sufficient objection, for great pain may often be saved by its performance. Mr. Paget said that he remembered such a case in a lady, whose breast he removed when she was five months advanced in pregnancy. She recovered well from the operation, and the benefit procured by its performance was very great; she went to her full term, bore her child, and was able to suckle it for a year before she died, with her most anxious wish fulfilled in comparative comfort.

Another condition unfavorable to operation is a brawny skin with firm œdema and wide open hair-follicles, or wide adhesion of skin; so is that in which the skin is extensively cancerous, or where there are little scattered tubercles of cancer in the glands and skin; or where there is considerable affection of the lymph-glands in the axilla, especially *numerous* diseased glands. A moderate amount, however, of lymphatic disease is no serious obstacle to an operation. But supra-clavicular disease should be an almost absolute bar against it.

Mr. Paget here adverted to the best manner of detecting cancerous lymphatic disease in this situation, and said that in cases where it is impossible to make out satisfactorily, by touch, the presence of enlarged glands, a difference of outline may be often seen by bringing the eyes to the same level with the part, and comparing the two sides; an uplifting of the integuments being often caused by the presence of swollen glands too deep or small to be felt.

Cases in which cancer attacks the upper half of the breast are generally bad; and those in which the lower part of the gland is affected are among the best. Cancer simultaneously affecting both breasts, is seldom or never to be operated on, for the risk is greater, and the advantage not greater.

There are, again, certain cases in which an operation is needless: such are the very chronic—where the breast is small, shriveled, knotty, and sunk down on the pectoral muscle. Patients with disease of this kind will live many years, probably, with no increase of tronble, and with but little inconvenience.

Mr. Paget concluded this part of the subject by summing up the advantages on each side, and said that the statements which he had made were taken from general averages, and that from such alone could any general conclusions be drawn. To deal with single cases is but a sort of surgical gambling. One man may tell of a case where no operation was performed, and the patient lived for twenty years; and another will tell of a life prolonged for almost the same time after operation; each statement quite true, but neither of them of any useful application. To reckon from such cases is mere gambling; and, as in gambling of other kinds, the best luck at first brings the worst grief at last.

In a second lecture on this subject, Mr. Paget proceeded to consider the treatment of cancer of the breast with caustics. This method of extirpation may be regarded as supplemental to excision. There is at the present time a patient in Sitwell Ward who is being treated in this way, and whose case gave occasion to these and the foregoing remarks. To state what may be a guide to the choice of cases for employing this rather than excision:—the objection to cutting is the risk to life. This risk is with caustics less. It is often said to be none, but this is an error. Death sometimes happens not by pyæmia or any such malady, but through severity of suffering, hemorrhage, too great exhaustion, etc. Mr. Paget said he had known three cases in one special practitioners's hands, of death in a month or little more from the commencement, and through the effects, of this treatment. But say the risk to life is only half that of cutting; why not, for this advantage, always choose caustics? These are the objections: The treatment is fearfully painful. The means of alleviation are very insufficient. It may be mitigated, indeed, by opiates or injection of morphia beneath the skin, but not materially. In neuralgic patients, especially, the pain is utterly intolerable; but cutting not more dangerous than in the average. A second objection is the danger of incompleteness, through loss of health, or local inflammation, making the rate of progress of the cancer greater than that of the destruction by the caustic, or through leaving an open, inflamed, and, consequently, worse form of cancer.

There is the danger, also, of irritating the lymph-glands, and so making them more liable to be affected by cancer; and there is the danger of very rapid return even after complete removal of the primary tumor. It has, indeed, been said by those who pretend to cure cancer thoroughly by this method, that no recurrence takes place; than which nothing can be more false. There are no reliable statistics to decide the rate of return, but it is certainly not less, and is, probably, more rapid than that after excision; from some of the gland, in which the disease will most probably return, being left—and left not uninjured after the inflammation, etc., which has been set up in the neighboring tissues.

These are, altogether, such serious objections, that caustics are very rarely to be preferred to excision, except in some of those cases in which, as enumerated in the last lecture, excision would be attended with much more than the average risk of life; for the constitutional maladies which greatly increase the risk of cutting do not, except very rarely, increase the risk of caustics. Many local conditions forbid the use of caustics—as a very large cancer, a decidedly acute one—(for this will almost certainly run ahead), a very widely-affected skin, general œdema of skin, scattered tubercles, nearly all degrees of disease of glands, all supra-clavicular disease, wide-spread ulceration, etc. But these are left as more fit for caustics than for cutting—many of the small cancers, especially in the unhealthy or diseased, many of the recurrent, the exuberant, some of the ulcerated, some of the adherent.

In conclusion, Mr. Paget said he believed, that by selecting with care, on the one hand, cases for excision, refusing those in which the operation would be attended with more than a proper share of danger; and, on the other, by using caustics where, from their smaller risk, etc., they would be more appropriate, the life of a large number of those who suffer from cancer may be considerably prolonged, and more even than any present statistics would show. —*Med. Times and Gaz.*, Sept. 27th, 1862.

We quote from the *American Medical Times*, of August 9th, the following letter from Dr. Sayre:

Sir—I have for many years past been in the habit of using picked oakum, in all cases of suppurating wounds, particularly in connection with opened joints, where the suppuration is excessive. The great number of gunshot wounds now in Bellevue Hospital, where I use it entirely to the exclusion of lint, has furnished an opportunity for a number of army surgeons to examine its advantages, and they have requested me to make the subject more generally known to the profession through the medium of your valuable medical journal.

One of the objects of lint applied to a suppurating wound is to absorb the discharge; now, as most of the lint is composed either entirely or in great part of cotton, it acts more like a tampon, or a retainer of the secretions, than as an absorber.

If you will take a bale of cotton and immerse it in the river for one month, or even longer, and then remove it, you will find on opening it that the cotton in the centre of the bale is perfectly dry, thus proving that it cannot be soaked through any great thickness, or that it will not absorb moisture. So, when placed over a suppurating wound and left for some hours, it will be found perfectly dry except at the point of contact: acting, in fact, like a bung in a barrel or a cork in a bottle—to *prevent* the escape of the pus—which necessarily burrows in different directions, thus forming extensive abscesses, and adding greatly to the danger of the patient; and when removed, the pus will gush out in large quantities. Now, if you place picked oakum over these same wounds, you will find, after the same number of hours, that the oakum is perfectly saturated with pus, and the wound itself almost perfectly dry and clean—the oakum acting like a siphon, and discharging the contents of the abscess by capillary attraction.

It is necessary to place under the wound a piece of India-rubber cloth, or oiled muslin, for the sake of cleanliness; and in case of much inflammation, by simply wetting the oakum in cold water, and wrapping the oiled muslin around the limb, or wounded part, so as to exclude the air, you have at once the neatest and most comfortable poultice that can be applied to it. In gunshot wounds, which go through and through a limb, particularly if made with the "Minié ball," the whirl or screw of the ball entangles in its thread the muscular fibres and cellular tissue, and separates them from their attachments for a long distance from the real track of the ball itself.

As the muscle and tegumentary tissues are more freely supplied with blood-vessels than the fat and cellular tissue, the consequence is that they begin to granulate much more readily than those other tissues, and will thus often close up the wound, and prevent the free escape of pus, before those parts have perfectly healed, and thus lead to the formation of extensive secondary abscesses. I, therefore, in all cases where no blood-vessels prevent it, pass an eyed probe through the wound and draw through it a few fibres of the oakum or tarred rope, which keeps it perfectly free, and the tar is a very excellent antiseptic, and removes all unpleasant odor.

A few fresh fibres are twisted on the end of the seton at every dressing and drawn into the wound, and the soiled piece cut off and removed with the dressings.

Another great advantage which the oakum possesses over lint, which in these times of heavy taxation is not to be overlooked, is its cheapness. Lint at the present time costs from $1.25 to $1.35 per pound, whereas the finest picked oakum can be obtained at the "Empire Oakum Works," No. 149 West 39th street, for ten cents per pound. And if it were universally adopted in the army it would save many thousands of dollars to the Government, and I confidently believe the life of many a soldier. And no surgeon who has once used it will ever resort to lint again, particularly if the lint is made of cotton.

CLINICAL REMARKS ON A CASE OF TEMPORARY PARALYSIS OF THE ACCOMMODATION OF THE EYE.—W. R——, aged 11 years, a delicate, pale, but bright and intelligent-looking lad, was brought by his father to the hospital on August 29th, on account of what appeared to be a great and sudden impairment of the vision of both eyes. His history was, that up to a fortnight ago he had always had good sight, and could read and write with perfect ease. Six weeks ago he had a low fever, from which he made a fair recovery, but was considerably reduced by it. One day, shortly after his illness, he discovered, on attempting to read, that he was unable to do so, but that he was able to distinguish objects at a distance. Examined with Jaeger's test-types, he could only read No. 16, or two-line great primer type; but he could with facility tell the hour of the clock at a distance of twenty-six feet. When reading No. 16, his near point was fifteen inches. With a twenty-four inch focus convex glass he could read at "a foot" No. 12 of Jaeger's test-type; eighteen inch ditto, No. 8 test-type; twelve inch ditto, No. 4 test-type; nine inch ditto, No. 1 test-type. At Dr. Bader's suggestion he was made to look at distant objects—large type, No. 20, placed at a distance of twenty feet, through a bi-concave lens, so as to ascertain what amount of concavity the accommodative power of his eyes was able to overcome. Good ordinary eyes can, with an effort, see distant objects, although diminished in size, through a bi-concave glass of six, five, or even of four inches and a half focus. The object at first is scarcely seen through such a lens, but by a strain of the accommodative powers it soon becomes just visible, and at last perfectly clear. This lad was only able to overcome a thirty inch concave lens, showing how little, if any, accommodative power he possessed. He was treated with purgatives, iron, good diet, and perfect rest to the eyes, with occasional cold sponging to them. He rapidly improved, and on September 19th he was able to read No. 1 perfectly with either eye, and could see as well as ever he did.

The following clinical remarks were made by Mr. Lawson: "In *The Lancet* of May 11th, 1861, I published, with some remarks, four cases similar to the above, under the heading of 'Temporary Paralysis of the Ciliary Muscle,' and showed that this peculiar affection would manifest itself after various illnesses. That it occurs more frequently after diphtheria I am willing to believe, as from the reports of those who have had many cases of diphtheria under their care, a temporary loss of, or great impairment in, the accommodating power of the eyes is not a very unfrequent result. But any debilitating illness seems to have a similar effect. This affection is not limited to children, although they much more frequently suffer than adults; for one of the cases I first recorded was in an officer, twenty-six years of age, who had suffered severely from fever. The prognosis, I think, may be favorable; for although I have not met with more than six or eight cases, yet under proper treatment they have all speedily recovered."—*Lancet*, Oct. 4, 1862.

BELLADONNA IN EPILEPSY.—At the Hospital for the Epileptic and Paralyzed, belladonna and its alkaloid, atropia, are still in favor as remedies for epilepsy. Under these remedies most patients with epilepsy, especially if they suffer much between the paroxysms, are benefited.

In treating epilepsy we must remember that, although in many cases we may not be able to cure, we can very often diminish the number of fits; and even if we cannot do that, the patient's general condition is often much improved. Many patients attend the hospital who have had fits for very many years, and though they have no hope of being cured, they, nevertheless, experience great benefit, and are rendered capable of resuming a comparatively active life. Although this is not a cure, it is the next best thing to it.

The prescription generally used is—Extract of belladonna a quarter of a grain, quinia one grain, in a pill three times a day. Of atropine, one $\frac{1}{120}$th of a grain is given three times a day. Of both, the dose is gradually increased. Although given in increased doses, they are rarely observed to produce, in epilepsy, much physiological effect. Sometimes, however, the patients complain of dryness in the throat, and of defective sight. We think it will be noticed that patients with dark eyes suffer more from it, and that these patients are often hypermetropic.

When the sight is affected by belladonna or atropine, it is because the ciliary muscle is paralyzed partially or totally, and hence that the power of accommodation is impaired, or altogether lost. It is not likely that it is due to dilatation of the pupil, as in congenital irideremia the accommodation is good, and in a case recorded by Graefe, in which the whole of the iris was removed by operation, it remained perfect. It was lost, however, when atropine was put into the eye.

Patients, of course, complain a good deal when their sight is impaired, however little, by any course of treatment, but they can be assured that the defect is only temporary. In some cases of cataract belladonna has been used for years without injury to the eyes, and without losing its powers.

In no case have we noticed dullness of hearing to be produced by this drug. Very likely there may be some slight impairment of hearing which the patient does not notice. Very often there is tinnitus aurium, and some little defect of hearing attending it, but this is common in epilepsy, whether belladonna be given or not. We have not noticed that patients have complained of increase of deafness under its use. If a solution of atropine were dropped into the ear it might then paralyze the small muscles of the ear, and produce defective accommodation for sound, if such a phrase is allowable.

Another method in which Dr. Brown-Séquard uses atropine in epilepsy, is to inject a solution of it and morphia into the part from which an aura starts. This was done in several cases with excellent results. A solution containing one-sixtieth of a grain of atropine and a quarter of a grain of morphia is injected with Wood's syringe. In the several cases in which it was used it did not produce any immediate effect in the patients, and no giddiness, etc. The operation is not painful.

It is supposed that belladonna acts on the blood-vessels, producing contraction. Ergot, also, Dr. Brown-Séquard believes, has this property; and hence their use in local inflammatory conditions of the brain or spinal cord. Ergot, he believes, has a greater action on the vessels of the spinal cord, and belladonna on those of the brain. In paraplegia from myelitis, a pill containing three grains of fresh ergot and a quarter of a grain of the extract of belladonna is given three times a day. The action of belladonna in arresting the flow of milk, and in causing dryness of the throat, may be explained also on the hypothesis of its diminishing the supply of blood to those parts.—*Med. Times and Gaz.*, Oct. 11, 1862.

Health of the British Army and Navg compared Together.

Dr. Milroy read a paper on this subject before the Social Science Congress at its recent meeting. It contained the following startling facts in reference to the two services: In the army, in 1859, in the United Kingdom, the annual death-rate was 8.4 in 1000; in the Mediterranean it was 13; in the West Indies, 17; in the Australian colonies, 10; and in Ceylon and China, 47.1. The death-rate in the navy was as follows for the year 1858: On the home station, 9.6; Mediterranean, 11.1; West Indian, 20.8; Australian, 7.9; and East Indian and China, 62.5. The daily sick-rate in the army was as follows: United Kingdom, 50 in 1000; Mediterranean, 48; West Indias, 53.5; Australian colonies, 27; Ceylon and China, 99.5. The daily sick-rate in the navy was: Home station, 53.5; Mediterranean, 48.7; West Indian, 66.6; Australian colonies, 42; and East Indies and China, 92.

A discussion ensued upon this paper in which Mr. J. N. Redcliffe said it was worthy of notice that Lord Clarence Paget in moving the navy estimates, had stated that a large amount of the mortality and sickness in ships was believed to be traceable to the want of proper ventilation between decks; but was not aware that the ventilation of iron-plated ships had been brought under the notice of the parliament committee which had been appointed to consider the subject. The iron-plating of ships shut out the means of ventilation, and the temperature between the decks of the *Warrior* was much higher than in any of the other war ships of the navy now in use. He understood that the Government had directed that seventy tons of solid brick-work should be placed on the bottom of the ship to keep out the bilge-water, but whether or not it was to be cemented he did not know. At the same time he must say that, when this brick work should become impregnated with bilge-water, the evils would be greatly aggravated. Therefore, what the condition of the iron-plated ships now building would be could be readily conceived, and he thought it was urgently required that the attention of the Government should be drawn to the ventilation of the *Warrior*, *Black Prince*, *Defence*, and the other iron-plated ships now building, or the mortality might prove much greater than it was at the present time.—*Dublin Medical Journal*, June 25, 1862.

The New Use for Tobacco.

From the American Medical Times.

Sir:—In the communication in a recent issue, under the signature of Cygnet, I find some remarks upon the subject of tobacco which invite comment. M. Demeaux, a physician of reliability, thinks he has discovered a new use for this drug, and with the true spirit of a philanthropist promulgates his views to the world. But for this he is ridiculed by his brother savans, who only show their prejudices against the employment of the weed by the short-sighted objections which they raise against it. Now, if M. Demeaux be not mistaken in regard to the antiphrodisiac properties of tobacco, a great amount of good can be done to the countless victims of masturbation. And pray, why are not his observations entitled to respect? Why should the door be closed against all further discussion and investigation into this subject, simply because Rayer, Flourens, Velpeau or Dumas hold to different opinions. The most amusing argument against Demeaux's belief is that offered by Dumas. He says: "Why attribute the improvement in humanity to tobacco, rather than to sugar, meats, or wines, the consumption of which has augmented quite as largely as that of tobacco? " We would ask, what analogy do any of these articles, in their effects, bear to tobacco? It is too well known that tobacco acts almost wholly upon the nervous system, and that, in those accustomed to its moderate use, the first effect is decidedly sedative. Now, none of the other articles, except wine, have any direct action upon the nervous system, and that is generally conceded to be a stimulant to venery. Theory would seem to bear out Demeaux's statement. Those of an excitable nervous system, and who are most generally addicted to masturbation, require something to properly balance their nervous forces, and we have a right to expect that tobacco has, in its soothing, sedative and stimulating effect, a tendency to do this. One vice, it is true, will be substituted for another, but which one is the greatest? We see it advised that one preventive against masturbation is a constant occupation of the mind. Our schoolboys and students must have some leisure time, which must be occupied in some way or another. Smoking is a habit which most desire to enjoy, and in order to get the full benefits of its effects they are content for the time being to do nothing else. The vacuum which craves for some sort of gratification of appetite is thus filled to satisfaction. I wish not to be understood as advocating the indiscriminate use of tobacco, because all of our young men are not addicted to onanism; but I am in favor, on theoretical grounds, of inviting on behalf of M. Demeaux, a fair trial of it in the cases for which he recommends it. It would be an interesting fact to establish in reference to this question, whether masturbation prevails less than formerly among the females—if so, it would certainly be an argument against the use of tobacco as a remedy. CYGNET, alluding to the fact that Demeaux's views have been treated with significant apathy by his colleagues, says: "I should array my pen against such insult, did M. Demeaux only explain *how* the smoking of tobacco cures onanism. He describes a remedy, tells the benign result, but makes no allusion to the *modus operandi* whereby the result arrives." Now, I would ask if CYGNET, in his practice, only prescribes those remedies whose method of action he can explain. If so, the domain of his therapeutics must be as cramped as his logic. Take for example, opium —does CYGNET doubt the effect of a dose of this drug—but will he attempt to explain to the satisfaction of all, why the narcotic effect is produced? The suggestion of M. Demeaux, in my opinion, is entitled to respect, if for no other reason than that he has shown a disposition to investigate a question in therapeutics, which, so far as I know to the contrary, is an entirely new one. He has commenced his investigation in a truly legitimate way by a study of statistics, and we have no right to deny the truth of his statments until we have lookd into the matter a little more fully. The science of medicine is a progressive one, improvements must necessarily be made in every department, and who can now pretend to say that tobacco may not be almost as effectual a remedy for masturbation as chloroform has proved itself to be for pain, quinine for ague, or mercury for syphilis. It strikes me that this is a subject worthy of the investigation of our army surgeons.

Yours, ect.,

RECTUS.

NEW YORK, Sept 28, 1862.

DEATH CAUSED BY CATERPILLARS.—A most singular case, perhaps the only one on record, of death caused by caterpillars occurred recently in the commune of Dardilly, near Lyons. A little boy, not more than eight years old had gone into a neighboring wood, in quest of birds' nests. Perceiving one on the top of a tree, he climbed up, but in so doing shook down an immense number of caterpillars, many of which fell on his shirt, his only upper garment, and soon covered his breast, which was bare, and penetrated to his arms and shoulders. For a few minutes the child took no notice of this, but he soon felt such an itching sensation that he was compelled to get down again and run home for assistance. Upon examination, his skin appeared covered with large red spots, which were soon followed by a general swelling, then by fever, somnolency, and delirium; and, notwithstanding all medical care, death ensued in the course of a few hours. The kind of caterpillar which caused this disaster was the *Bombyx processionea* of Reaumer, a very venomous species. Botanists know that if a nest of these insects be touched, or only stirred up with a stick, the person so doing, and remaining for some time near the spot, within reach of the eminations arising therefrom, will be attacked with a papulous eruption of a more or less confluent nature, which will last several days, and be attended with violent itching. Dr. Calmell, Physician to the Hospital of Charenton, had preserved a nest of these caterpillars in a large glass phial, which was not opened for upwards of ten years. At length, the phial being accidentally wanted, it was opened in the presence of several persons, who all caught the eruption. This strange property has even suggested to several members of the Faculty the idea of using these caterpillars in cases in which it is required to subject the skin to a strong and permanent irritation. We may remark, in conclusion, that the number of caterpillars which infest the trees this year all over France is quite unprecedented—a circumstance which has called the attention of the authorities and of various learned societies to the question of protecting insectivorous birds, the only really efficacious enemies of the caterpillar.—*Amer. Med. Monthly.*

DISREGARD BY MILITARY COMMANDERS OF THE COUNSELS OF MEDICAL MEN ON SANITARY MATTERS.—Sir Ranald Martin, in his late work on *Tropical Climates,* makes the following statements:

" When very young, and serving in one of the most pestilential countries known in India, I made a topographic examination of the localities, and reported the result to my commanding officer, suggesting at the same time what I regarded as the most suitable arrangement for encamping the men against the coming rainy season, when it was well known that a great increase of deadly fever would result. The answer was, 'I'll be —— if I do.' Now, here was no blundering lieutenant, but, on the contrary, one of the most able and well-informed field-officers I have ever known; yet, such was his treatment of a grave matter of duty, and the neglect of which, before the year was over, cost him his life. Again, on landing at Rangoon, during the first Burmese war, I was credibly informed that the superintending surgeon of the Bengal division there had warned the officer commanding that, without fresh amimal food and vegetables, the European soldiers must perish from scurvey. The answer was characteristic, and somewhat more civil than that granted to me. It was this: " Medical opinions are very good, sir—when they are called for.' "—*Ed. Med. Jour.*, August, 1862.

VACCINATION IN ENGLAND.—The number of persons vaccinated last year in England was 432,806, of which 425,739 were successful, and of this number 100,641 were above a year old. The number of registered births in the unions making these returns was 685,646, more than double the number of infants vaccinated by the public vaccinator. The number of the vaccinators was 3731.

Bibliographical Notices and Reviews.

The Pathology and Treatment of Venereal Diseases; including the Results of Recent Investigations on the Subject. By FREEMAN J. BUMSTEAD, M.D. With Illustrations on Wood. 8vo., pp. 686. Philadelphia: Blanchard & Lea, 1861. (Sold by J. H. Riley, Bookseller, Columbus, Ohio. Second notice, continued from page 349, July No.)

Having in a previous number spoken in a general way of the many excellencies of this book, and given somewhat at length the author's views and treatment of Gonorrhœa, we come now to speak of what constitutes its strong claims on the profession—we mean the clear, logical, and scientific manner in which he has elucidated the subject of Syphilis. This constitutes the second part of the work.

In endeavoring to present an abstract of the views and principles here advanced, we can only hope to be partially successful; and have been induced to make the attempt only with the hope that by directing attention to the work, we may be instrumental in extending its circulation, and thus aid in disseminating sound pathological and practical doctrine. Of course we shall be compelled to make lengthy extracts.

Dr. Bumstead commences by defining Syphilis as an infectious disease, the characteristics of which are as follows:

1st. The presence of a morbid poison or virus, which transmits the disease from one individual to another.

2d. The immunity which one attack generally confers against a second.

3d. A "period of incubation," during which the virus is latent, and gives no external manifestation of its presence in the system.

4th. A degree of order and regularity in the evolution of the symptoms.

These different propositions, which aphoristically set forth the theory of the author, are ably and fully discussed in the work, and sufficiently indicate an important issue between himself and others who have largely written on the subject, as well as their antagonism to the common and popularly-received doctrine.

No one now doubts, if ever there were those who did, that there is a specific virus upon which depends the transmission of this disease from one person to another. The thousands of successful inoculations have established this beyond a cavil. The great problem to be solved is the unity or duality of the disease: why, in respect to the course of syphilitic diseases (so called), there should be such an entire want of uniformity; why should one person who was afflicted with a chancre—with suppurating bubo of enormous extent—be exempt from contamination of the system, and suffer no ulterior consequences, while a second person, with perhaps a chancre of a few days' duration, would be afflicted with a long train of constitutional symptoms, extending over years, and in all probability to his posterity.

This difficulty was early recognized by writers and observers. The sagacious Hunter saw and pointed out the important fact that induration was a necessary ingredient in a chancre before it could affect the constitution. He looked upon this, however, as an evidence of what he called secondary or constitutional syphilis; he still maintained, however, "that there was no difference between the kind of matter, and no variation can arise in the disease from matters of different degrees of strength; the variations of the symptoms in different persons depending upon the constitution and habit of the patient at the time." Other writers, among whom were Carmichael and Abernethy, appear to have had strong convictions of there being distinct diseases classed under the head of syphilis, calling for entirely different modes of treatment; but it was reserved for Ricord, and those emanating from his school, to fully establish the fact of the existence of two distinct poisons, giving rise to two distinct diseases, which are never convertible into one another, and which pursue each its own course, being characterized by its own peculiar phenomena. We say Ricord and his immediate followers, for whilst it is true that Ricord never did in his writings distinctly announce his belief in the duality of the disease, he frequently expressed the opinion to his students that some day distinct origins would be found for the infecting and non-infecting chancre. And from the uniformity which he observed in his inoculations—soft chancre always producing soft chancre, and *vice versa*—he is said to have remarked, that "if these results are found to be constant, we should be forced to conclude that there are differences in syphilis which do not depend on the condition of the individual upon whom the cause acts, but upon differences in the cause itself."

Bassereau, who had been a pupil of Ricord, was the first to distinctly announce, and successfully maintain, the existence of two distinct poisons, and two distinct diseases. This occurred as long since as 1852, when he published his treatise on syphilitic disease of the skin. Of this author Dr. Bumstead speaks in the highest terms, on account of his cogent, logical reasoning, his accuracy of investigation, and originality of thought. In the following summary, which is translated from the above-mentioned work by Dr. Bumstead, and transferred to his, Bassereau gives his conclusions and his method of arriving at them. We give it entire, as presenting, in the briefest possible space, the difficulties involved in the investigation, and as a sample of correct logical induction, however startling and novel may be the conclusion. M. Bassereau says:

> "There can be no question of the fact that there are chancres which may be treated by the most simple remedies, without the employment of any mercury whatsoever, and yet never be followed by symptoms of constitutional syphilis. Any one may convince himself of this truth by inquiring of old men, many of whom will state that they had chancres several times in their youth, which were treated with simple cerate, lint, or other means destitute of specific action, and, though they had never taken mercurials, there has not been the slightest appearance of constitutional syphilis during the thirty or forty years which have since elapsed. Many persons will also repeatedly have chancres and escape infection, but will finally contract another which will be followed by a syphilitic eruption. Why this difference? What should limit the action of the chancre in one case, and in the other extend it to the whole system? This is an interesting problem, and I will proceed to give you the results of my attempts to solve it. Let no one who is wont to pay respect to opinions which have received the stamp of authority take umbrage at the novelty of the propositions which I am about to present, or be hasty in rejecting them. The question at issue is so important that it requires serious examination. It is not to be decided by a vague appeal to impressions left upon the mind by a former experience, or by the doctrines of this school or that; it can only be settled by new investigations, undertaken for the very purpose. I ask, therefore, of unbiased men to devote the necessary time to verify the facts which I am about to present, and to give them their most scrupulous attention.
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> "Among the causes which I have investigated, I have endeavored to ascertain if age has any influence in the extension of syphilis to the general economy, and I have satisfied myself it has none. From birth to the most advanced years, man may have chancres, which, at any age, may be

followed by constitutional syphilis; and though infection is more common in the young, it is simply because they are more exposed. Sex is equally devoid of influence. Ricord states that chancres are less frequently indurated in women than in men, which is equivalent to saying that women are less liable to constitutional syphilis, since it can easily be shown that infection follows in most cases of indurated chancres. I do not believe, however, that Ricord carries the induction thus far. For my own part, I think that the rarity of induration in women is only apparent. Indeed, in examination of the same number of chancres, in the two sexes, I have found nearly the same proportion in the one as in the other; with this difference, that the induration was generally poorly marked on the vulva, while it was very decided on the penis. Just as the skin of various parts of the body is not equally susceptible of the development of induration, so this symptom is less frequent on the genital organs of women than men. But women on this account are not less exposed to constitutional syphilis. Though fewer persons of this sex are affected with this disease, it is because the number who are addicted to debauch is incomparably less than men; whence venereal affections of all kinds, constitutional syphilis included, are less common among them, and the difference cannot be attributed to mere sex.

"Again, idiosyncrasy will not explain the fact that a chancre produces only local effects in one person, while in another it infects the system at large. This is proved by the number of persons who, after having numerous simple chancres, contract another which becomes indurated and is followed by constitutional manifestations.

"Can such different results from two acts of contagion by a virus reputed the same be accounted for by the changes which frequently take place in the constitution, and by virtue of which a man is not affected in the same manner by the same agent at times very nearly approximated? Doubtless such dissimilar effects might depend upon the particular disposition existing at the time of contagion; but this explanation is admissible only in default of a better, especially as it is opposed to what we know of the action of specific causes, which always tend to produce the same results.

"I have carefully studied the temperament and constitution of persons affected with syphilitic erythema, in order to discover if any one of these organic modifications of the system might not influence the development of constitutional syphilis, but such inquiry has led to no positive result. I have found all temperaments affected in nearly equal proportion; none can therefore be regarded as peculiarly conducive to the extension of syphilis throughout the economy; and the same may be said of difference of constitution.

"An insufficient amount or bad quality of food, which is a powerful aggravating cause of syphilitic symptoms, has been so rarely observed in the cases of erythema which have come under my notice, that it is impossible to ascribe to it the development of general syphilis. The abuse of alcoholic stimulants, changes of temperature, and intercurrent diseases, appear to have no more effect. I have merely noticed that chancres contracted during warm weather are more rapidly followed by syphilis than during cold.

"The above remarks clearly show that neither age, sex, idiosyncrasy, temperment, constitution, hygienic influence, nor co-esting disease which might be supposed to have depressed the system at the time the contagion took place, can, each by itself, be regarded as the determining cause of infection; and if we group them all together instead of considering each singly, my statistics will show that they will not account for one third of the cases of constitutional disease. The better to appreciate the etiological value of these influences, I have examined the condition of those persons whose chancers, in spite of the absence of all treatment capable of retarding or destroying a tendency to secondary symptoms, have not been followed by constitutional syphilis. I have compared one hundred such cases, with an equal number of patients affected with syphilitic erythema, and have found in each, nearly the same proportion of lyphatic temperments, feeble constitutions, bad hygienic influences, etc., thus confirming my opinion of the necessity of searching for other than physiological and hygienic causes of the generalization of syphilitic manifestations.

"I have also sought for the solution of this question in the chancre itself. I have endeavored to ascertain if repeated acts of contagion might not favor the appearance of secondary symptoms. On examination of the cases cited, I found that in 112 cases the eruption appeared after several successive chancres, and in 86 after a single chancre. Notwithstanding the predominance of the former, it cannot, I think, be admitted that the repetition of primary symptoms is the cause of constitutional affection. The idea that the action of a virus must be accumulated to produce its utmost effect is but little in accordance with the medical knowledge we already possess. In a number of my cases, also, there was so long an interval between the chancres that it appears to me difficult to attribute the first contagion any influence whatever in the production of the constitutional syphilis which followed the last exposure.

"Again, I have inquired if individuals affected with several chancres at one time, were not more exposed to constitutional infection than those having only one, and who consequently bore upon their persons a smaller surface secreting contagious matter; but I found that this could not be the case, for of the 170 instances of syphilitic erythema, 141 had but one and 29 multiple chancres; whence I conclude that neither the plurality of primary sores nor the extent of the secreting surface can be regarded as the cause of constitutional manifestations when they appear. These results are analogous to those obtained by Kirkpatrick, Dimsdale and Gatti, in experiments with the virus of variola, from which it appears that there is no connection between the number of inoculated points, and the copiousness of the consecutive eruption. Girot even observed that the eruption of variola was milder and more discrete after inoculating in six places, than when only two punctures were made.

"An analysis of these cases of syphilitic erythema, shows that the development of constitutional syphilis is not affected by the situation, degree of ulceration, or duration of the primary sores. General symptoms may supervene on whatever part of the body a chancre is situated; and the intensity of the former is not increased when the primary ulcer is at a distance from the genital organs as was once supposed by Boerhave. A decided tendency to extend by ulceration is also innocent of the development of constitutional syphilis; for I have seen the mildest and most superficial erosions, followed by infection, when phagedenic sores proved inocuous. Chancres which last for a long period are not more likely to terminate in secondary syphilis than those which cicatrize in a moderate or short space of time, as may also be seen from an examination of these 170 cases.

"On the other hand, induration is so frequent a symptom of these primary ulcers, that it is impossible not to admit that it bears an intimate relation to the syphilitic erythema which ensued. But even if it could be shown that all infecting chancres are indurated, must we necessarily say that induration is the cause of infection? By no means; for this would only be avoiding the question instead of solving it, since the cause of the induration could still remain to be discovered.

"Finally in my investigations I have endeavored to ascertain if any relation existed between the symptoms presented by my patients, and those persons from whom they contracted the disease. Such inquiry is often difficult, for men are frequently infected by women whom they never see again, and of whose name and address they are alike ignorant. Some have intercourse with several women within a short time preceding the appearance of the chancre, so that the sources of the virus is doubtful; others refuse to give any information with regard to persons with whom they had connection. In some cases, however, we are able to compare the symptoms in the two sexes. Patients often bring to me for examination the women who infected them, or else put me in the way of visiting them at their homes. Frequently, also, at the Hospital des Veneriens, I have found two or three, or even a larger number of men who contracted their disease from the same woman, either on the same day or at a few days interval. Finally, in several instances I have seen both a wife and husband, and even their children, all affected with syphilis which had been introduced into the family by one of its members.

"These repeated confrontations of persons infected by each other—-undertaken at first to determine what syphilitic lesions are contagious and what are not; to show what symptoms may succeed others, and what modifications the same symptoms may undergo by transmission between individuals of different sex and temperment—have led to the discovery of that hitherto misterious cause, by virtue of which chancres sometimes limit their action to the part on which they are situated and the neighboring ganglia, and at other times extend their effects to the system at large, and are followed by constitutional syphilis. The following propositions embody the results obtained from the confrontation of patients affected not only with erythema, but also with other syphilitic eruptions and primary sores, with those persons from whom their disease was derived:—

"If we compare persons who have had chancres followed by constitutional symptoms with those persons who inoculated them, or with those whom in turn they have inoculated, we find that all, without exception, have had constitutional syphilis; never, in any case, has the action of the chancre been merely local.

"On the other hand, by the comparison of individuals who have had chancres which did not result in general manifestations, with the individuals who infected them, or with those whom they have infected, we find without exception that the latter, equally with the former, have had chancres, the action of which was limited to the part first inoculated. Thus a chancre followed by constitutional syphilis never gives rise to a mere local chancre; and a purely local chancre cannot produce a chancre which will be followed by the general manifestations of syphilis. The uniformity of the facts which have come under my observation—none but apparent exceptions having ever been met with—fully justify me in enunciating the following proposition as a law:—

"*Whenever a person has a chancre and afterwards constitutional syphilis, the generalization of the syphilitic phenomena is first of all due to the fact that the person from whom the contagion came had a chancre which was necessarily followed by constitutional symptoms.*

"Of thirty-four cases of syphilitic erythema, in which I have been able to confront the patients with those who have infected them, and in some instances with those whom they had afterwards infected, *in thirty-one*, conformable to the law just enumetated, all the individuals thus confronted presented lesions of the same character; all without exception had chancres which were followed by constitutional syphilis. In only three, from the absence of symptoms of general infection, did there seem to be any exception, but induration was found at the site of the primary sore, showing that the exception was only apparent; moreover, the mercury which had been administered for the latter, fully accounted for the absence, or delay in the appearance, of constitutional manifestations."

The attention of the profession having been thus directed anew to the important question of the unity or duality of the chancrous virus, other observers immediately set to work to test the accuracy of M. Basereau's observations, and new facts soon began to appear, all of which were found to point in the same direction. Numerous cases have been furnished by the observation of Drou, Diday, Rollét, Fournin, Ricord, Caby and others, which go incontestably to establish the fact that the character of the ulcer passes unchanged from one individual to another.

The investigations of Fournin, especially, having established the correctness of M. Basereau's conclusions in regard to the transmission of primary sores in persons who had been previously free from syphilitic taint, he undertook a solution of the qustion, how far, if at all, the conditions would be modified by communicating an infecting chancre to a person who already had had constitutional syphilis. The result was as might have been anticipated—the person having once had the true disease, became affected, to all appearance, with a soft chancre, which was limited entirely to its local effects; but in all the cases observed, where this apparently soft chancre was communicated to a third person who had not previously been syphilized, it re-asserted its original infecting character, accompanied by indurated inguinal ganglia and constitutional manifestations.

According to these observers, the results thus far attained, by comparison of the symptoms of those giving and those receiving primary sores, may be thus summed up in the following conclusions:

> "1st. Among persons free from previous syphilitic taint, each of the two species of chancre is transmitted in its kind; the simple chancre as a simple chancre, limited in its action to the neighborhood of its site; the infecting chancre as an infecting chancre, followed by constitutional manifestations.
>
> "2d. A primary sore with a soft base, unaccompanied by induration of the neighboring lymphatic ganglia, in a subject already affected with syphilis, will, when communicated to a person free from syphilitic taint, give rise to a soft or hard chancre, according to the nature of the virus which occasioned the first-mentioned ulcer.
>
> "3d. The virus of the non-infecting chancre is a poison distinct from that of the infecting chancre.
>
> "4th. Phagedenic ulceration does not depend upon a specific difference in the ulcer."

We are aware that these conclusions are sufficiently novel and startling; that they have not as yet been adopted by any considerable number of observers, and that in many cases they have met with a most determined and violent opposition; and yet we believe firmly that they are true. That this is the only theory which will satisfactorily explain the many apparently conflicting opinions, and form the basis of any thing like a satisfactory and rational mode of treatment, and remove at once all that doubt and uncertainty as to the cases in which mercurials are indicated, and those in which they are not.

The advocates of the duality of the poison, it should be remarked, do not insist upon the uniformity of the external appearance of the sore, nor that it enters as a necessary element into this consideration. And we apprehend this is one reason why some writers have refused to adopt the views here maintained. Induration is not a necessary concomitant of the infecting chancre, although usually present. It is sufficient to say, that one species of virus invariably affects the system; the other, when unmixed, never; thus establishing the necessary existence of two diseases, although induration be left entirely out of the question. We may further remark, that they—the advocates of the new pathology—do not regard their theory as proving the existence of two kinds of syphilis. The term "syphilis" implies not only a local, but general disease—conditions which are alone fulfilled by the so-called hard chancre and its constitutional syptoms.

The soft chancre and its attendant bubo should not, properly speaking, be described under the head of syphilis, but be considered apart, like gonorrhœa. It is also desirable to adopt a different name for this ulcer; as, for instance, the term "chancroid," which is already much employed, especially by French authors. This is the term used by Dr. Bumstead, usually, when speaking of the non-infecting or soft chancre.

We do not deem it out of place, as indicative of the spirit manifested towards these new pathological views, to extract a paragraph from the last edition of Prof. Gross's Treatise on Surgery.

> "Chancre," he says, "presents itself under two varieties, the indurated and the non-indurated or soft; all other distinctions being now abandoned, on the ground, whatever difference of appearance the sore may exhibit, they are solely and entirely of an accidental character, and therefore altogether independent of the nature of the syphilitic virus. It is impossible in the actual state of science, to determine why one person should have a hard chancre and another person a soft chancre. In the adjudication of such a question it will not do to invoke the existence of a corresponding number of poisons; to do so would be to destroy the unity of the disease, and to invest the subject with inextricable confusion. The most philosophical course, in the absence of facts, is to assume that there is really only one virus, but that this virus is capable of being so modified in its character, by local and constitutional causes, or by internal and extrinsic circumstances, as to produce effects the very opposite of each other in different individuals. How else can we explain the occurrence of indurated and non-indurated sore upon the genitals?

> "The laws of disease have their irregularities and anomalies no less than the laws of health: exceptions meet us every where, and it would indeed be singular if they should be wanting altogether in syphilitic disease. In the production of the two varieties of chancre here alluded to, some powerful moderating circumstance must be in operation, shaping, influencing, and controlling the result. Small-pox, scarlatina, measles, and other eruptive diseases, are subject to remarkable departures from the natural standard, and yet no sensible pathologist would for an instant suppose that every new feature exhibited by these affections was indicative of the existence of a new poison."

Now, to our mind, a more irrational, illogical, unsatisfactory method of disposing of a proverbially knotty pathological difficulty could not be conceived of. Such a course of reasoning, if invariably applied, would arrest all progress in medical science—nay, would thrust us back hundreds of years, into those dreary regions of doubt, darkness, and superstition! Who now doubts the existence of separate poisons in Gonorrhœa and Syphilis? Yet, before the experimental reasoning of Hunter, they were universally regarded as the same disease, "modified by local and constitutional causes." Were not even Variola, Scarlatina, and Rubeola for a long time originally confounded together, supposed to be produced by the same cause, only modified by extrinsic circumstances? If, "in adjudicating such a question, it will not do to *invoke* the existence of a corresponding number of poisons," certainly it is competent under all circumstances to appeal to facts, and follow their guidance to whatever conclusions they may lead, however much they may disturb our preconceived opinions, even "to the destruction of the unity of the disease."

"Invest the subject with inextricable confusion." Shades of departed Hunter and immortal Bacon! If it be impossible, in the actual state of science, to determine why one person should have indurated and another soft chancre, in the first *always* followed by general symptoms, in the other *never*, is there any presumption in endeavoring, by an appeal to facts and experiment, to place science in such a position as will enable us to determine why such should be the case?

Scarcely any two diseases differ more widely than chancre and chancroid. In the first, the ulcers generally are small and hard—sometimes a mere abrasion, disappearing without any, or very mild treatment, nearly always followed by induration of the lymphatic ganglia, and in from six weeks to three months with general symptoms; seldom or never recurring again in the same person, and curable only with mercury. In the other, the ulcers large, soft, multiple, mostly followed by suppuration in the groin, and never affecting or tainting the system; disappearing always and only under local treatment, and occurring an indefinite number of times in the same person. Now when it is considered that these two diseases specifically reproduce themselves with all their train of symptoms, is it philosophical or not to invoke the existence of separate poisons? Are we not completely shut off from any other conclusion? and is not such a classification eminently calculated to simplify our views of both the disease and treatment, in place of investing it with "inextricable confusion?"

In regard to the second proposition, that constitutional syphilis rarely occurs more than once in the same person, Dr. Bumstead, although not holding the law as absolute, looks upon it as more nearly so than in kindred contagious diseases; as, for instance, small-pox, measles, scarlatina, etc. It is not contended that persons who have previously undergone syphilisation, or have been affected with the true disease, enjoy a perfect immunity in future from its infecting virus; but it is emphatically true, that they are inoculated with great difficulty, and that, even when the ulcer is contracted from a sore of the true infecting type, it is seldom it presents the characteristic features of the hard chancre, and rarely, if ever, is followed by general symptoms.

Of the truth of this we had not long since a very instructing example. A married man presented himself to us to be treated, as he stated, for gonorrhœa. Upon examination, we found what would be considered as the symptoms of that disease. He had purulent discharges from the urethra, painful micturition, etc. A short time after we were requested by him to see his wife also, who, he stated, was suffering from some disease of the genitals. We were much surprised to find she had chancre, apparently of the true indurated kind, on the vulva. We now regarded his trouble as internal chancre, and treated it accordingly. From the well-known social habits of the two persons, there could exist scarcely a doubt as to whose breach of the marital rights the disease was due; indeed, there was scarcely an attempt at concealment—his notoriously dissolute habits at once settled the point. In the man the disease was confined to its strictly local manifestations; in the wife the whole system became contaminated—the characteristic erythema being abundant over her whole person, the throat being affected, etc.

Apparently, this might be claimed by the opponents of the duality of the poison as a triumphant refutation. Here was a case, originating, evidently, from the same source—a case of confrontation from which there could be no escape—and yet we find in one of the patients true constitutional syphilis; in the other simple local disease. But when we go a step farther, and find that this man had, at a previous period of his life, been affected with the disease constitutionally, it presents an entirely new feature. Although he had been successfully inoculated, locally, and had even communicated to his wife true syphilis, his system, true to the law of diseased action, precluded the possibility of being affected by it. Our experience, although not very large, has been as extensive as usually falls to the lot of those confined to private practice, and yet we have never seen an exception to the above rule. Dr. Ancel, in his report on syphilis in Rankin's Abstract for 1845, says Dr. Colles makes the curious remark, that he had never seen or heard of a single instance of a syphilitic infant, although its mouth were ulcerated, producing ulcerations on the breast, when suckled by its own mother; whereas, very few instances have occurred where a syphilitic infant did not affect a stranger, hired wet nurse, previously in good health. He further remarks that this opinion corresponds with that expressed by the late Dr. Wallace, that an individual ceases to be susceptible of inoculation from his own primary sore as soon as his constitution becomes affected, although symptoms may not have made their appearance. Of course such an occurrence would excite no surprise when received through the medium of the pathological views here maintained, and is only confirmatory of them.

"A chancroid," then, may be considered "as the local and contagious ulcer, which, being most frequently transmitted by sexual intercourse, chiefly affects the genital organs."

"A chancre is the initiatory lesion of acquired syphilis, arising at the point at which the virus enters the system, and separated from the general manifestations of constitutional infection by a period of incubation. It has been generally supposed that the *virus* of a *chancre* could alone give rise to chancre; recent investigations, however, appear to show that the conditions of the above definition are fulfilled, whatever may have been the source of the virus, whether derived from *primary* or *secondary* lesion.

"In common parlance, both the chancroid and true syphilitic sore are included under the name of chancre."

Dr. Bumstead, whilst admitting but one true and radical distinction between chancres as to their specific difference, namely, the simple and infecting chancre, for convenience of considering the subject, makes the following classification :

1st, The simple chancre; 2d, The infecting chancre; 3d, The mixed chancre; 4th, The gangrenous chancre; 5th, The phagedenic chancre.

These different divisions of the subject are fully and ably discussed, and much valuable statistical information furnished as to their relative frequency and position.

The peculiarities and appearance which characterize each are graphically pointed out with a clearness and precision which divests the subject from all that mystery and confusion in which the prolix and exhaustive descriptions of many writers have involved it.

On the subject of *Diagnosis* the author makes the following judicious and pertinent remarks :

"When a sore can be watched through the stages of evolution and decline, it is rare that we are not able to decide whether it be a chancre or not; and if so, to what species it belongs. The case is quite different when we are called upon to express an opinion, from a single examination, as to the nature of an erosion or ulcer, especially if the knowledge of its history be imperfect, either through the patient's ignorance or deceit; the diagnosis may be comparatively easy in most cases, but in many it is difficult—in some impossible. Much will depend upon the time at which the sore is seen.

"The chancroid, and especially the infecting chancre, when fully developed present symptoms which are almost unmistakable to any one conversant with syphilis; but at an earlier period, particularly if they occupy a previous solution of continuity, no human eye can see, and no human means detect, at once and without delay, the presence of a specific virus.

"These remarks are not unimportant, since most patients suppose that a competent surgeon can tell a chancre at first sight; and I have known many young practitioners make the same mistake, and feel much chagrined at meeting with cases in which they were at fault. To such it may be a consolation to know that experience, though doubtless adding much to the facility of a diagnosis, cannot, however great it may be, invariably enable the possessor to say, from a single examination, such a sore is a chancre, and such a one is not.

"The following tabular view of the diagnostic character of the simple and infecting chancre may assist materially in forming a differential diagnosis :

THE SIMPLE CHANCRE.	THE INFECTING CHANCRE.
Origin.	*Origin.*
Always derived from a simple chancre or virulent bubo.	Always derived from an infecting chancre or secondary lesion.
Anatomical Characters.	*Anatomical Characters.*
Generally multiple, either from the first or successive inoculation.	Generally single; multiple, if at all, from the first; rarely, if ever, by successive inoculation.
An excavated ulcer, perforating the whole thickness of the skin or mucous membrane.	Frequently a superficial erosion, not involving the whole thickness of the skin or mucous membrane, of a red color, and nearly on a level with the surrounding surface.
Edges abrubt and well-defined, as if cut with a punch, not adhering closely to subjacent tissues.	Sometimes an ulcer, when its edges are sloping, hard, often elevated, and adhere closely to the subjacent tissues.
Surface flat, but uneven, "worm eaten," wholly covered with greyish secretion.	Surface hollowed or scraped out, smooth, sometimes greyish at centre.
No induration at base unless caused by caustic or other irritant, or by simple inflammation; in which case the engorgement is circumscribed, shades off into the surrounding tissue, and is of temporary duration.	Induration firm, cartilaginous, circumscribed, movable upon tissues beneath. Sometimes resembles a layer of parchment lining the sore. Generally persists for a long time.
Pathological Tendencies.	*Pathological Tendencies.*
Secretion copious and purulent, inoculable.	Secretion scanty, chiefly serous; inoculable with great difficulty, if at all, upon the patient or person under syphilitic diathesis.
Slow in healing. Often spreads and takes on phagedenic action.	Less indolent than the chancroid. Phagedena rarely supervenes, and is generally limited.
May affect the same person an indefinite number of times.	One attack affords complete or partial protection against a second.
Characteristic Glandular Affections.	*Characteristic Glandular Affections.*
Ganglionic reaction absent in the majority of cases. When present, one gland accutely inflamed and generally suppurates, pus often inoculable, producing a soft chancre.	All the superficial inguinal ganglia on one side, or both, enlarged and indurated; distinct from each other; freely movable; painless, and rarely suppurated; pus never inoculable.
Prognosis.	*Prognosis.*
Always a local affection, and cannot affect the system. "Specific" treatment by mercury and iodine always useless, and, in most cases, injurious.	A constitutional affection, secondary symptoms unless prevented or retarded by treatment, declare themselves in about six weeks from the appearance of the sore, and very rarely delay longer than three months.

In speaking of the treatment of Syphilis, Dr. Bumstead commences by remarking, "that it would be well if the physician or surgeon in undertaking the treatment of any disease could know how far nature could dispense with his services." There is no disease, perhaps, in the treatment of which there is more discrepancy and confusion than the one under consideration. Many writers still advocating the indiscriminate use of mercury, whilst others discard it altogether. These various and exclusive methods of treatment, have established the following conclusions, that:

> "Although general treatment by mercury doubtless facilitates the cicatrization of some chancres (the infecting,) yet it is necessary for the accomplishment of this process in none, and in the majority (taking chancres in the aggregate) is positively injurious."
>
> "All primary sores, except perhaps the phagedenic, will heal spontaneously, without any local treatment except cleanliness, generally within a period of a few months, and often within a few weeks, but not always with as little detriment or the same comfort to the patient as if interfered with."

In regard to the use of mercury, we have already, in the course of this notice, frequently intimated the views of our author, as well as his practice. He restricts its use entirely to the indurated—infecting chancre, and the constitutional symptoms which follow it. Under no circumstance is it, in his opinion available—indeed never administered, if carried to any extent, without producing harm, in chancroid, or simple chancre.

Looking upon this, as entirely local disease, an ulcer produced by a specific cause, it can never call for general treatment other than in maintaining the different functions of the animal economy at the healthiest standard possible. In regard to the other, the infecting chancre, the case is altogether different. It is here that we find the use of mercury of inestimable value—nay almost a *sina qua non.* Indeed, admitting the value of local treatment, of which we shall speak hereafter, we are often, from the locality of the chancre being such as to cut off all access to it, restricted entirely in our efforts to cure, to general treatment. And it is truly surprising, how rapidly it is generally absorbed, and the ulcer cicatrize, under the judicious administration of this drug, without any local application having been resorted to. Admitting such to be the true state of the case, there would be room for little or no embarrassment were the diagnosis at all times easily made out. Unfortunately, however, such is not the truth. What is the course then to be pursued in doubtful cases? Shall we, as advocated by some writers, administer mercury in all cases of primary sore in order to be certain of including the doubtful ones? Certainly not; that would be to inflict positive injury on twenty persons, that five might receive an equivocal benefit.

Believing as we do that the symptoms are generally so obvious, as in nearly all cases to enable a careful, judicious surgeon to make a correct diagnosis, we think it is far better to treat the ulcer locally, where accessible, and wait the manifestation of general symptoms, before resorting to constitutional treatment, involving the administration of mercury.

Some writers, as Diday and Halstead, postpone invariably the use of general means until the secondary symptoms have been pronounced. To this course Dr. Bumstead objects, as although mercury will not always prevent their accession, the liability of their occurrence is very much diminished by its use, and if they do occur, they are always much modified and less prominent. For his mode of administering it, and the various circumstances qualifying its admissability we must refer to the book itself, which is replete with suggestions of great practical utility.

On the second division of the subject of treatment, that of local applications for the purpose of destroying the chancre, the directions given are very full.

Dr. Bumstead whilst admitting the great utility of the early destruction and cicatrization of the sore, does not agree with Ricord, Hunter and others, that it certainly prevents, or even very greatly lessens the liability to the occurrence of secondary symptoms. Viewing, as he does, the local affection only "as the initiatory lesion of acquired syphilis" its eradication it matters not at how early a date, will not in all cases prevent its showing subsequently as a general affection.

Diday has thoroughly cauterized chancres four days, and others five days after coitus, and secondary symptoms have still appeared.

He also reports the following cases:

"Case 1. A man, aged 45, somewhat of a syphiliphobist, and consequently very attentive to the condition of his genital organs, consulted Diday, Sept. 24, 1858, for a chancre which he had first observed three days before. The sore was at once cauterized with the paste of vegetable carbon and sul. acid, in use at Hopital du Midi.

"The patient was seen again Oct. 3d, when the chancre was found to be healed and to have left a healthy-looking cicatrix. Slight induration of a few ganglia in the groins inspired, however, some doubts as to the future.

"Nov. 8. The cicatrix presented a well marked mass of induration, and the glands in both the groins were also indurated: and the patient complained of scabs in his hair.

"Nov. 19. A papular eruption of a decided copper color appeared over the whole body.

"Case 2. A young man, who, from former experience, was familiar with the appearance of chancres, sought advice Oct. 14, 1858, for a *small abrasion*, which as he stated, appeared only twenty-four hours before. It was immediately burnt with the carbo-sulphuric paste.

"Oct. 28. The sore had cicatrized, but had left well marked induration, which also involved the inguinal ganglia.

"Nov. 26. He presented a papular syphilitic eruption, and scabs upon the hairy scalp."

The following case is reported by Langlebert:

"A student of medicine, who was thoroughly informed upon all subjects connected with syphilis, consulted Langlebert for a small ulcer behind the corona glandis, which he was certain had appeared only two days before. The sore was superficial, scarcely larger than a pin-head, was not indurated, nor accompanied by engorgement of the inguinal ganglia. It was cauterized the same day with nitrate of silver, and healed in less than a week.

"No induration appeared in the groin, but two months after constitutional syphilis declared itself."

Such occurrences as these sufficiently indicate that the destruction of the infecting chancre, however early practiced, is frequently incapable of preventing general symptoms; should teach us the necessity of great watchfulness; and render us extremely cautious in giving an opinion, based upon this fact alone, as to the probability of the disease being completely eradicated. Physicians are frequently consulted as to the propriety of forming a marriage connection—under the circumstances here supposed—and a permission to do so has, in many cases, been followed by developments of a most disastrous character.

Dr. Bumstead sums up his remarks on the treatment of chancres as follows:

"1st. In the treatment of all primary sores, the general health is to be maintained, as nearly as possible, at a healthy standard; avoiding both a depressed and stimulated state of the system. Local applications should be simple and unirritating—cleanliness should be carefully observed.

"2d. Simple chancres do not require the administration of mercury, either as a preventive of constitutional affection or to promote cicatrization of the ulcer. The most effectual treatment is deep cauterization, with a powerful caustic, as fuming nitric acid, repeated as often as may be found necessary.

"3d. The internal use of mercury is justifiable only in undoubted cases of infecting chancres; and, in nearly every case of this species of primary sore, is the only treatment required. The abortive treatment, at the earliest period at which the sore can be detected, is ineffectual in preventing constitutional infection.

"4th. When in doubt as to the nature of the chancre, treat it as belonging to the simple species, and keep the patient under observation until the period of incubation of secondary symptoms has been passed in safety.

"5th. Inflammatory chancres are to be treated by rest, low diet, and other antiphlogistic measures, so long as the accute symptoms continue: if gangrene occur, tonics and stimulants will be required.

"6th. The treatment of phagedenic chancres consists in attention to the hygenic condition of the patient, nourishing diet, tonics, stimulants, opium, and deep cauterization by means of nitric acid, Vienna paste, or the actual cautery, followed by the appropriate lotions, as potassio-tartrate of iron. Mercurials are highly detrimental in accute phagedenic, and are rarely of benefit in any case in which this complication is present."

The remaining chapters of Part II. treat of Bubos, General Syphilis, Syphilitic Affections of the Skin, Syphilitic Affections of the Appendages of the Skin, Mucous Patches, Gummy Tumors, Syphilitic Affections of the Mucous Membranes, Syphilitic Affections of the Eye, Syphilitic Affections of the Ear, Syphilitic Orchitis, Syphilitic Affections of the Muscles and Tendons, Syphilitic Affections of the Nervous System, Syphilitic Affections of the Periostum and Bone, Congenital Syphilis.

All these subjects are ably and logically discussed, and, illuminated from the new stand-point which our author has taken, very many difficulties have been removed, and points, hitherto obscure and unsatisfactory, have been rendered plain and inteligible. We wish this book was generally read by the profession, at least all those who attempt to treat syphilic diseases. We have not unfrequently been surprised to hear persons express their ignorance of its contents, whose position would pre-suppose their acquaintance with the current literature of the profession. That they would be greatly benefited themselves by consulting its pages, we are very confident; nor can there be any doubt that a familiarity with its principles and practice would be productive of much good to their syphilitic patients. R. M. D.

Columbus, Nov. 1, 1862.

Anatomy of the Arteries of the Human Body, Descriptive and Surgical, with the Descriptive Anatomy of the Heart. By JOHN HATCH POWER, Fellow and Member of Council of the Royal College of Surgeons; Prof. of Descriptive and Practical Anatomy in the Royal College of Surgeons; Surgeon to the City of Dublin Hospital, etc. Authorized and adopted by the Surgeon-General of U. S. Army for use in Field and General Hospitals. Philadelphia: J. B. Lippincott & Co. 1862.

It will be noticed this work comes from abroad—Dublin, Ireland. It was undertaken, as the Preface states, chiefly with a view of assisting the student while engaged in the study of Practical Anatomy, and of affording him such practical information in connection with the Anatomy of the Arterial System as may be of advantage to him long after his studies have been completed. The anatomical details are very much simplified; and such material facts in relation to operations on the principal arteries of the body, as may lead to correct conclusions relative to the treatment of the various accidents and diseases to which these vessels are exposed. The author has not overlooked the fact that there are many practitioners, particularly those in rural districts, who do not possess any opportunity of refreshing their memories upon anatomic points by actual dissection. The present volume to such will prove to be very valuable.

The work is very finely illustrated from drawings in part executed expressly for it. Besides the illustrations in the English edition, numerons others have been inserted by the American publishers.

It is right just here to state that this work is published at present under the authority of the Surgeon-General, for the use of surgeons on the field of battle and in hospitals. If carefully consulted it will aid those now in the field very much in the discharge of their duties. The publication, moreover, is very opportune.

Physician's Visiting List, Diary, and Book Engagements for 1863. Philadelphia: Lindsay & Blakiston.

The contents of this little volume embrace: *Table of Signs, Almanac, Marshall Hall's Ready Method in Asphyxia, Poisons and their Antidotes,* Table for calculating the Period of Utero-Gestation, blank leaves for Visiting List, etc., etc., etc.

For sale at City Bookstores.

Hospital Steward's Manual, for the Instruction of Hospital Stewards, Ward-Masters, and Attendants, in their several Duties. Prepared in strict accordance with existing Regulations and the customs of service in the Armies of the U. States of America; and Rendered Authoritative by order of the Surgeon-General. By JOSEPH JOUVIER WOODARD, M.D., Assistant Surgeon U. S. A., Member of the Academy of Natural Sciences of Philadelphia, etc. Philadelphia: J. B. Lippincott & Co. 1862.

This Manual, containing some 324 pages, has been gotten up by the author at the instance of the Surgeon-General U. S. Army, Wm. A. Hammond, M.D. A review of its contents shows it to embrace a very considerable amount of matter selected and arranged in accordance with the scope of books of its character.

The work is divided into FIVE PARTS. PART I. *Hospital Stewards.* PART II. *Discipline, Police, and General Supervision of Military Hospitals.* PART III. *Food and its Preparation.* PART IV. *The Dispensatory.* PART V. *Hints on Minor Surgery and Dressings, for Hospital Stewards.*

Considering the emergencies under which this little volume has been produced, it is a very creditable production. Dr. Woodard writes well and much more fully on the topics introduced than might have been expected.

The work will undoubtedly assist Hospital Stewards very much in the discharge of their duties, and if its teachings and suggestions are heeded, much improvement will take place in the management of Hospitals.

The Hospital Steward is a *non*-commissioned officer; he ranks with ordnance sergeants, and next above the first sergeant of a company. *(Revised Regulations for the Army,* 1861.) He is therefore entitled by his rank to obedience from all enlisted men who may be in the hospital, whether patients, ward-masters, nurses, or employees, who must cheerfully comply with all his reasonable and lawful commands.

Editorial and Miscellaneous.

DEATH FROM CHLOROFORM.—A few days ago Dr. J. R. Flowers, a gentleman of our city practicing on the Homœopathic system, went some eight miles into the country for the purpose of amputating a couple of toes. Chloroform was administered, and death followed before the operation was completed. The following were the circumstances:

The patient was a little girl, about 10 years of age, of good constitution, and, as far as was known, was at the time free from disease. Chloroform was administered from a handkerchief, with the patient in the recumbent position. Anæsthesia did not come on readily, and, as a consequence, some twenty minutes were consumed before commencing the operation, and even then the effect was not such as to destroy entirely sensibility; one toe was taken off, after which the patient raised up and talked for a few minutes. The administration of the chloroform was resumed preparatory to the removal of the second toe, but still not carried to the point of complete insensibility. The operation was commenced, but before it was completed the patient took a convulsion, and at once ceased breathing. The usual means of restoration were at once adopted, such as throwing cold water on the face, inflating the lungs, opening the doors and windows for fresh air, and turning the patient on the side, with manipulations to the chest—all, however, to no purpose; the vital spark had fled.

A "*Coroner's Inquest*" was held over the remains, to determine the cause of death. Wm. Trevitt, M.D., of this city, and myself were called upon to hear the testimony connected with the administration of the chloroform, and give an opinion. We united in the statement that the death was due to the chloroform administered, and that, from all that could be learned from the physician, Dr. Flowers, and those present at the time, the drug had been administered with proper caution.

Remarks.—The above is the first death that has occurred, as far as we have heard, in this region from the use of chloroform, although it is the practice here to use the article in surgical operations; and many use it also in obstetrical practice. The case, therefore, assumes to us no small importance. It brings home at once the stirring, and I might say, shocking truth, that this mighty drug, so valuable in taking away suffering, also once in awhile takes away life, and that too without our being able to comprehend the reason why it does so. It is not often, it is true, that it shares with potent remedies this sad privilege; still the fact, in itself, is an extremely unpleasant one.

It has been stated, and is generally believed, that the fatal effect of the drug is never displayed, if administered barely to the point of destroying sensibility to pain. The above case contradicts such an impression. Sensibility was not destroyed at either administration. On the application of the knife for the removal of the second toe, the patient complained, and a few moments afterwards took a convulsion and ceased breathing.

APOLOGY.—The present nnmber of the Journal has been delayed beyond the usual time for its appearance, by the scarcity of paper. Our printer has been put to considerable inconvenience in obtaining paper such as the Journal has been printed on. It seems that the raw material has become uncommonly scarce, and, as a consequence, many paper-mills have had to stop. In future, we expect fewer casualties.

TO SUBSCRIBERS.—This number of the Journal closes the 14th Volume. No bills have been sent out during the year. This has not been because our dues have not been needed to pay current expenses, but because those upon whom the duty devolved were too scarce of time. Those who know themselves indebted will please remit without further delay.

For the Ohio Medical and Surgical Journal.

Letter from Dr. T. J. Pearce.

MECHANICSBURGH, OHIO.

James Kaywood, aged 22 years, of previous good health, and stout, compact form of body, while acting as a private in the 66th

Reg. O. V. I., during the month of February in the present year, suffered an attack of pleurisy, was sent to hospital, where, after a few weeks' treatment, he so far recovered as to return to his home in this vicinity. He continued feeble, but without treatment, until the middle of last May, when I was called to see him, and found him laboring under symptoms to my mind indicating an effusion in cavity of left pleura. He also had ascites, with a general anasarcous tendency.

I put him upon treatment, but after a few weeks, seeing no perceptible amendment, but rather an increase in the chest trouble, I advised tapping as the only means of relief.

He was now able to walk about and attend to light business, but was feeble in body, circulation slightly accelerated, dry cough, dyspnœa inability to lay on right side, left side considerably distended, intercostal spaces full, with dullness on percussion, and absence of respiratory murmur on left side below third rib. Heart's impulse was found under right nipple. Abdomen was considerably distended, yielding flat sound on percussion. Bowels normal, and appetite good.

In this condition he went to Springfield and consulted Drs. Dunlap, Rogers, and Buckingham, who agreed, I believe, in the opinion that there existed serous effusion both in pleura and peritoneum, and that tapping the chest must be resorted to, and the sooner the better. Soon after his return home he sent back for Dr. Dunlap, and on consultation, we introduced (Dr. Dunlap operating) the trocar between the seventh and eighth ribs, and removed about five pints of serum.

I then put him upon calomel, Digitalis, nit. potash and squills, with laxative portions of cream tartar and jalap, under the use of which the ascites completely disappeared in about three weeks time. After the tapping the breathing improved, and for a time the chest symptoms promised a favorable result; the heart, however, never recovered its natural position. But in the course of five weeks, the symptoms for an operation were as urgent as at first; and although the symptoms, such as night sweats, paroxysms of hectic fever, etc., usually regarded as indicating *pus*, were absent, yet on tapping I drew off about half a gallon of pure pus.

I now put him on treatment to brace the general system and arrest and absorb effusion. But in a few weeks I found the effusion again present, and again I punctured, and this time, as near as we could arrive at the amount, it discharged thirteen pints of pus. And so the case went on collecting and being discharged, until at five different tappings I removed in the neighborhood of five gallons of pus, besides the water discharged from the chest in the first operation, and the amount taken from the abdomen and general system by the medicinal treatment. After the second tapping and discharge of pus, his general health began to give way more perceptibly; night sweats and paroxysms of hectic fever were now more manifest; the flat sound gave place to a general tympanitic resonance over the left lung, save when and where matter would exist before tapping. And although he became quite feeble, respiration hurried, and great dyspnœa, yet he was able to be up a part of the time, and with slight assistance continued to walk from his bed to his chair and back again, up to within a few hours of his death, which took place on the 14th of the present month, about four months from the first tapping.

Aided by Drs. Bond, Clark, and H. C. Pearce, we made a post mortem examination, first, however, drawing off the pus, which in amount was at his death about two gallons. Fearing the system would sink under the shock, I had not operated on him for ten days previous to his death: seeing, too, that death was inevitable. Left pleura, costalis and pulmonalis gone. Left lung disappeared; nothing of it remaining but a mere bulbous extremity of left bronchus, not to exceed an ounce in weight. Heart normal, but resting to right of sternum. Right lung, from continuous compression, had lost fully one-half its size. Right lung also adhered to costal surface, and below to diaphragm.

Such, in brief, was the condition of the viscera of thorax. One lung entirely gone, and the other one for months crowded between the heart and ribs, had lost half its substance, and yet life was supported for weeks.

The case having been treated by us during our busiest season of practice, and not expecting to report it, I omitted noting some important details, such as accurately measuring the fluid, dating the operations, etc. But the reader can, from the outlines given, draw his own inferences as to the points of interest.

TRAUMATIC TETANUS.—The *Lancet* publishes a case of traumatic tetanus successfully treated with opium and belladonna poultices, by Dr. S. Cartwright Reed. The patient was a lad of healthy appearance aged 17, who was knocked down by a cart, a wheel grazing the side of his head, nearly tearing away the right ear, and fracturing the right maxilla, at its symphysis. Notwithstanding a careful dressing of the wound, gangrene supervened in twenty-four hours, which made it necessary to remove the ear, when a linseed poultice was applied and saline aperient administered. The wound progressed unfavorably, and on the third day tetanic symptoms began to show themselves. An aperient draught was ordered immediately, and linseed poultice with a drachm of opium powder applied to the wound. The next day belladonna mixed with glycerine was substituted for the poultice, and one grain of opium with two of calomel given at night. Slight improvement was soon apparent and the treatment continued, substituting mercurial ointment for the glycerine, and after the sixth day the tetanic spasm gradually disappeared, and the body rapidly recovered—*Amer. Med. Times.*

OPIUM IN DELIRIUM TREMENS.—Dr. D. L. D. Sheldon, of New York, gives us the following item of practical experience in the use of large doses of opium in delirium tremens. He says: A few years since I treated a case (I am sorry to state a *physician*) with delirium tremens, it being the *fifth* time in less than the same number of years I had attended him for his trouble. He tolerated a very great quantity of opium and its preparations. *At this time* I commenced the treatment with a *liquid* equivalent to *two* grains of opium every *fourth* hour, then increased with careful attention to *three, four, six* and *eight* grains every *fourth* hour, and lastly *twelve* grains every *fourth* hour, terminating with the *third twelve*-grain dose, which produced the desired effect. The patient slept about six hours, not *very* sound, without stertorous breathing; awoke, soon fell asleep again, and slept *well* about the same length of time; after which I had no further trouble with him, as he was then capable of getting along with domestic attention. I am not able to state the precise quantity taken within about four days; but it must not have been far from one hundred and twenty grains

—averaging one and a quarter grains per hour. Although my purpose of cure was effected, I cannot state, as did the editor of the *Pacific Med. and Surg. Journal,* that "this case *alone* determines, in our estimation, the innocuousness of opium in enormous doses."—*Med. and Surg. Reporter.*

FOOD IN TYPHOID FEVER.—Dr. Hérald confirms the opinion expressed some time ago on this continent, as well as in England, that in the management of typhoid fever the all-important, the capital question is that of food; prolonged abstinence leads to the most disastrous results. One lady patient was sinking steadily under a strictly enforced abstinence; when the pulse numbered 120, nocturnal agitation with wandering delirium, vomiting and diarrhœa had set in, the effects of nutriment were tried. At first, only a few drops of iced beef-tea could be swallowed with the utmost difficulty; by and by the food remained on the stomach, and in proportion to its increase, the pulse fell, the delirium yielded, and the patient recovered. Mr. Marotte has established that vomiting, diarrhœa and delirium, more especially the latter, are characteristic of starvation. Trouseau also lately pointed out the striking analogy existing between the more serious symptoms of typhoid fever and those of autophagy consequent upon protracted abstinence.—*Champonnière's Journal.*

USE OF TRITICUM REPENS.—An infusion of one ounce of the dried and cut root, in a pint of boiling water, has been employed by H. Thompson, in quantities varying from twelve ounces to a pint in twenty-four hours, with remarkably good effects against the following affections: Vesical irritability from inflammation of the prostatic and neck of the bladder; severe gonorrhœa, especially when the inflammation extends backward; the pain and spasm caused by calculus on aggravated stricture of the urethra; some obscure diseases of the bladder; prostatic enlargement in elderly patients, and renal calculus. Wherever micturition is very frequent or painful, depending on hypersensibility of any part of the urinary passages from acute or subacute inflammation, the symptoms are mostly relieved and the urine becomes clearer. If improvement follows, it generally does soon after commencing the medicine; if none can be observed in four or five days, it is not worthy to be continued. It is important to gather the plant in the spring, shortly before the leaves appear, to dry the stem slowly without artificial heat, and to cut it into short lengths for use.—*Dublin Med. Press.*

WINE OF CITRATE OF IRON AND QUINIA. By SAM. CAMPBELL. —℞. Sulphate of quinine, 140 grains; citric acid, 120 grains; citrate of iron, 600 grains; diluted sulphuric acid, 3 fluid drams; liquid ammonia, distilled water, of each q. s.

Rub the quinia salt until perfectly miscible with four ounces of distilled water; then add the diluted acid; pour the whole into a decanting vessel and add the solution of ammonia, until it ceases to form a precipitate, being careful not to have the alkaline solution in too great an excess. The precipitate is to be carefully washed with distilled water until the washings cease to evince any further evidence of alkaline reaction upon litmus-paper previously reddened with an acid. The hydrated quinia is then incorporated with the citric acid and citrate of iron, previously dissolved in three ounces of boiling distilled water. When completely dissolved, add sufficient distilled water to make the whole measure thirteen fluid ounces. Eight fluid drams of this solution contains eight grains of the double salt. By mixing two fluid drams with six of pure sherry wine, a solution is obtained containing in each teaspoonful two grains of the salt.—*Amer. Jour. of Pharmacy.*

DISCOVERIES OF FOSSIL HUMAN REMAINS.—It is said that M. MALAISE, a Belgian palæontologist, has discovered in the cave at Engihoul, near Liege, portions of two lower jawbones and three pieces of skulls, undoubtedly human. In each jawbone the last three molars remain, all but two of which are much worn, and one is decayed. The pieces of the skull are identified as fragments of the occipital and parietal bones; one of the latter is remarkably thick (eight millimetres). In the colour, degree of decomposition. and position, the human bones were indistinguishable from the other animal remains which were found under the stalagmite. This stalagmite is less than two inches thick, and is overlaid by a bed of porous and pebbly silt, varying in thickness from two to three feet. Detailed facts relating to this discovery will be given in Sir Charles Lyell's forthcoming work on the Antiquity of Man. This is not the first instance of the discovery of human remains in the cave at Engihoul, and it would be most interesting to compare the remains there discovered with those which have been derived from the neighboring cave of Engis.—*Med. Times and Gaz.*, Oct. 11, 1862.

MORTALITY FROM COAL MINE ACCIDENTS IN GREAT BRITAIN.—The deaths from accidents in coal mines in 1857 were 1122; in 1858, 930; in 1859, 914; in 1860, 1109; and in 1861, 943; being an average for the five years of just over 1000.

RAILWAY ACCIDENTS IN GREAT BRITAIN.—During the year 1861, 284 persons were killed and 883 injured by accidents on railways in the United Kingdom. Of this number, 216 were killed and 836 injured in England and Wales; 39 were killed and the same number injured in Scotland; and 29 were killed and 8 injured in Ireland. Forty-six passengers were killed and 781 injured from causes beyond their own control.—*Lancet*, Sept. 27th, 1862.

MUNIFICENT DONATION TO THE UNITED STATES SANITARY COMMISSION.—The city of San Francisco, California, has sent to the United States Sanitary Commission one hundred thousand dollars. This munificent donation is most opportune, and will enable the commission to largely increase the comforts of the sick and wounded of our heroic army.